

Instruction manual

EnVision CE20



IMPORTANT SAFETY INSTRUCTIONS

Your Eina EnVision model CE 20 sewing machine is designed and constructed for HOUSEHOLD use only. Read all instructions before using this sewing machine.

- 4. This machine is equipped with a special connection cord which, if damaged, must be replaced by an identical cord. This can be obtained from your dealer.
- Never operate the machine with any air opening blocked. Keep ventilation openings of the sewing machine and foot control free from accumulation of lint, dust and fibers.
- 6. Never drop or insert any object into any opening.
- 7. Do not use outdoors.
- 8. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
- 9. To disconnect, turn machine off, then remove plug from outlet.
 10. Do not unplug by pulling on cord. To unplug, grasp
- the plug, not the cord.

 11. Keep fingers away from all moving parts. Special
- care should be used around the sewing machine needle.
- 12. Always use the proper needle plate. The wrong plate can cause the needle to break.
- 13. Do not use bent needles.
- 14. Do not pull or push fabric while stitching. This may deflect the needle causing it to break.
- 15. Switch the machine off when making any adjustment in the needle area, such as threading needle, changing presser changing needle, threading bobbin, changing presser foot, etc.
- 16. Always unplug the sewing machine from the electrical outlet when removing covers, lubricating or when making any other servicing adjustments mentioned in the instruction manual.

Shock: Shock:

- Your sewing machine should never be left unattended when plugged in. Always unplug the machine from the electrical outlet immediately after using and before cleaning.
- 2. Always unplug before replacing light bulb. Replace bulb with same type rated 13.2 Volts D.C. 3 watts.
- Do not reach for the machine if it has fallen into water. Unplug immediately.
- 4. Do not place or store machine where it can fall or be pulled into a tub or sink. Do not place it in or drop it into water or other liquid.

WARNING – To reduce the risk of burns, fire, electrical shock or injury:

- Do not allow the machine to be used as a toy.
 Supervision is necessary when this machine is used by or near children.
- 2. Use this machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as described in this manual.
- 3. Never operate this machine if it has a damaged cord or plug, is not working properly, has been dropped or damaged, or dropped into water. Return the machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.

SAVE THESE INSTRUCTIONS

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Be sure to keep machine away from static electricity, heat sources, humidity and direct sunlight. When using your sewing machine the first few times, place waste fabric under the presser foot and run the machine without thread for a few minutes. Wipe away excess oil.

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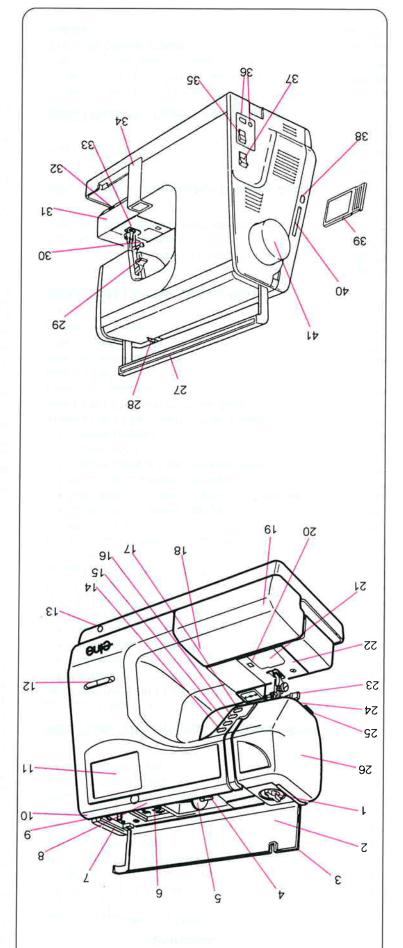
SECTION I

Machine Parts and Functions

Part Names

- 1. Foot Pressure Dial
- 2. Sewing Instruction Panel
- 3. Top Cover
- 4. Spool Pin
- 5. Spool Holder (Large)
- 6. Foot Compartment
- 7. Bobbin Thread Cutter
- 9. Bobbin Winder Spindle 8. Computer Display Screen Brightness Control
- 10. Bobbin Winder Stopper
- 11. Computer Display Screen
- 12. Speed Control Lever
- 13. Knee Lifter Hole
- 14. Up/Down Needle Key
- 15. Auto-Lock Key
- 16. Reverse Key
- 17. Start/Stop Key
- 18. Fine Adjustment Dial
- 19. Extension Table (Accessory Box)
- 20. Bobbin Cover Plate Release Button

- 21. Bobbin Cover Plate
- 22. Needle Plate
- 23. Needle Threader Lever
- 24. Buttonhole Lever
- 25. Thread Cutter/Holder
- 26. Face Plate
- 27. Carrying Handle
- 28. Thread Take-Up Lever
- 29. Presser Foot Lever
- 30. Needle Clamp Screw
- 31. Free Arm
- 32. Feed Dog Lever
- 33. Presser Foot
- 34. Carriage
- 32. Power Switch
- 36. Machine Sockets
- 37. Light Switch
- 38. Card Eject Button
- 39. EnVision Card™
- 40. EnVision Card Slot
- 41. Flywheel



Standard Accessories

- 1. A: Metal Foot

- 5. R: Automatic Buttonhole Foot

- 12. E: Zipper Foot

- 14. Screwdriver
- 16. Scissors
- 17. Spool Pin Felt
- 19. Additional Spool Pin
- 20. Quilting Bar

- 23. Small Spool Holder

25. Walking Foot Quilting Bar

- 22. P2: Darning Foot

28. Set of Needles 27. Button Shank Plate

26. Cloth Guide

24. Walking Foot

34. * Knee Lifter

32. Foot Control 31. Embroidery Hoop 30. EnVision Card 29. Carrying Case

33. Power Supply Cord

- 21. Lint Brush

- - 18. Seam Ripper

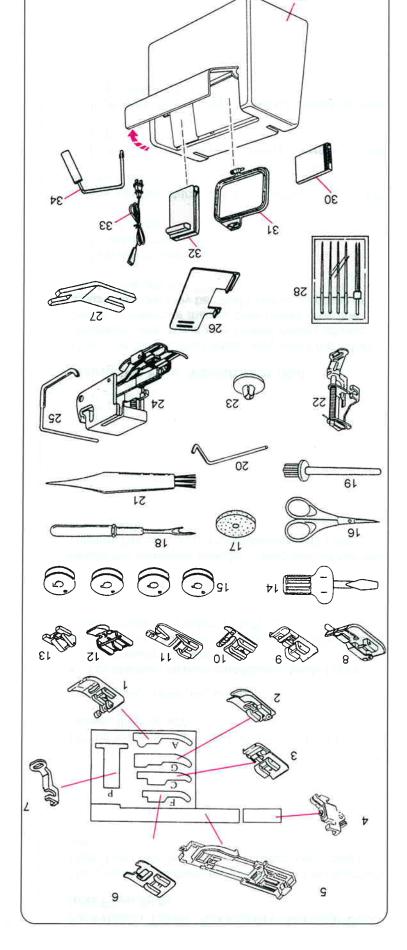
 - - 15. Bobbins
- 13. T: Button Sewing Foot

 - 11. D: Hemmer Foot

 - 10. H: Multi-Cord Foot
- 9. M: Overcasting Foot
- 8. O: Patchwork Foot (1/4" Foot)

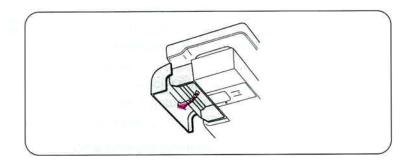
 - 7. P: Embroidery Foot
 - 6. F: Satin Stitch Foot

 - 4. Shank
 - 3. C: Overlock Foot
 - 2. G: Blind Hem Foot



Extension Table (Accessory Storage Box) and Free Arm

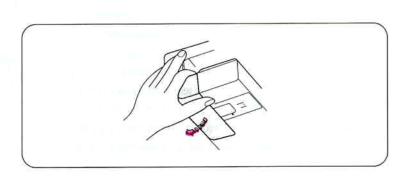
Many sewing accessories are stored in the extension table. Pull cover towards you to open the storage box.



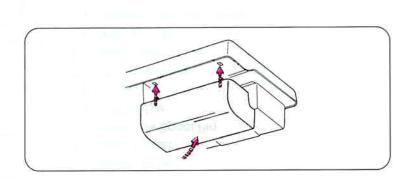
Lift the extension table up from the machine to expose the free arm.

Advantages of free arm sewing:

- For stitching sleeves, waistbands, pants legs or any circular garment area.
- For darning socks or mending knees, elbows or worn areas in children's clothing.



Attach the extension table for a large sewing surface. Position the tabs on the base grooves and push down gently.



Using the Fine Adjustment Dial

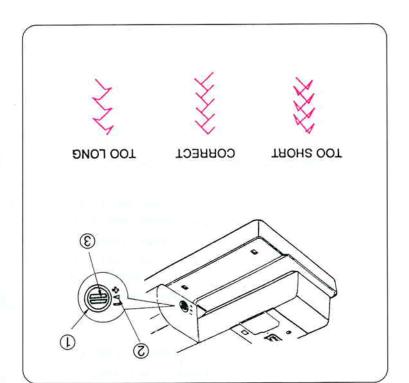
Choice of fabrics and threads may affect the stitch formation when sewing decorative stitch patterns, letters, numbers or manual buttonholes. The fine adjustment dial may be used to either lengthen or shorten the stitch.

- Tine adjustment dial
- Standard mark
- 3 Setting mark

To fine tune the stitch, use a screwdriver to move the setting mark.

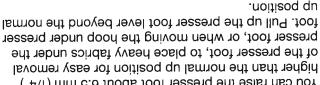
If stitches are too short, correct by turning the dial in the direction of "+".

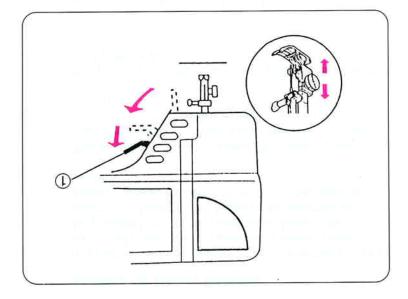
If stitches are too long, correct by turning the dial in the direction of "-".



Additional Presser Foot Clearance

You can raise the presser foot about 6.5 mm (1/4")



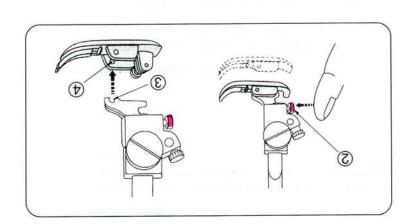


Presser foot lever

Attaching and Removing Presser Feet

of the shank. Lower the presser bar to attach the foot. foot so the pin on the foot lies just under the groove presser foot will drop off. Place the selected presser Press the red button on back of the shank. The

- © Red button
- ni¶ ⊕
- 3 Groove



Attaching and Removing the Shank

counterclockwise with the screwdriver. The shank is removed by turning the thumbscrew

⑤ Thumbscrew

Tighten thumbscrew by turning it clockwise. hole in the presser bar. Put thumbscrew in hole. When attaching, match the hole in the shank with the

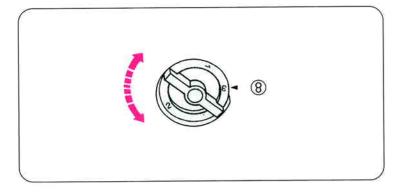
- Shank
 Shank
- Presser bar

Foot Pressure Dial

embroidery. applique, cutwork, drawn work, basting and ordinary sewing. Reduce the pressure to "2" for The foot pressure dial should be set at "3" for

.gnittəs "۲" Velours and knits with a lot of stretch may require a

Setting mark



Sewing on Heavy Fabrics

The black button on presser foot A locks the foot in a horizontal position when pushed in before lowering the presser foot. This ensures even feeding at the beginning of seams and helps when sewing many layers of fabric while hemming jeans that have welt layers of fabric while hemming jeans that have welt begins.

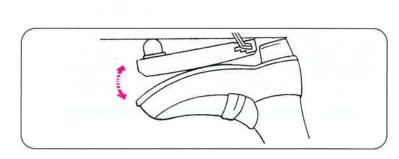
When the point of an increased thickness is reached, lower the needle and raise the presser foot. Press in the black button. Lower the foot and continue sewing.

This button releases automatically after a few stitches have been sewn.



Foot Control

Sewing speed varies with the foot control. The harder you press on the foot control, the faster the machine runs.



• Speed Control Lever

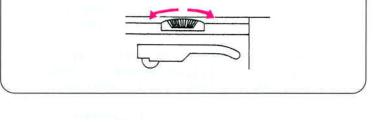
Maximum sewing speed can be preset by adjusting the speed control lever.

To increase sewing speed, slide the lever to the right.

To decrease sewing speed, slide the lever to the left.



Display screen lightens or darkens for visibility by turning the dial located under the top cover in front of the foot compartment.



Changing Needles

Rely. Lower the presser foot.

Turn off the power switch.

Loosen the needle clamp screw by turning it counterclockwise.

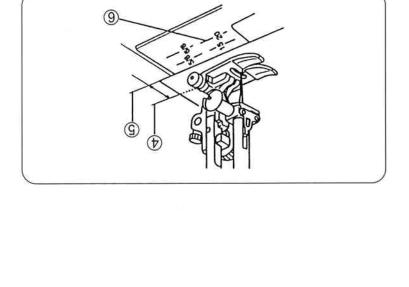
- ① Needle clamp screw
- S Remove the needle from the clamp. Insert the new needle into needle clamp with flat side to the back.

When inserting the needle into the clamp, push it up as far as it will go and tighten the clamp screw firmly.

- Needle insertion view hole
- ③ Needle clamp
- 3 To determine if the needle is defective, place the flat side of the needle on something flat (a needle plate, glass, etc.).

The gap between the needle and the flat surface should be consistent. Mever use a bent or blunt needle. It may cause skipped stitches or thread breakage. Defective needles can ruin the fabric.

Always purchase good quality needles. Change needle often.



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Seam Allowance Lines

The lines on the needle plate and bobbin cover plate help measure seam width.

The number indicates the distance between the center needle position and the seam allowance line.

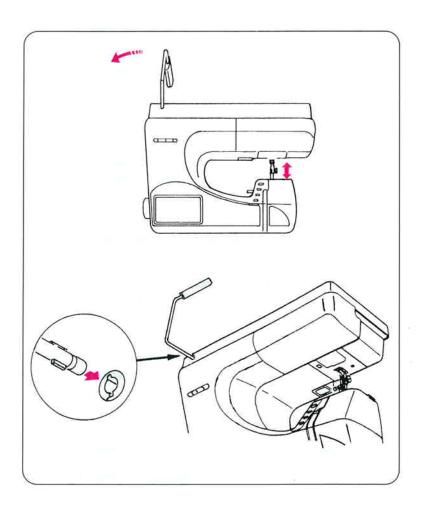
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- © Center needle position
- ⑤ Edge of fabric

How to Attach the Knee Lifter

The knee lifter allows you to raise or lower the presser foot without using your hands. This is especially beneficial when pivoting corners or while sewing patchwork pieces.

- Insert the knee lifter in the knee lifter hole. (Match the tab on the lifter with the notch in the hole.)
- The presser bar rises equal to the amount of pressure applied to the knee lifter.
- * Some countries do not include the knee lifter



How to Lower the Feed Dog

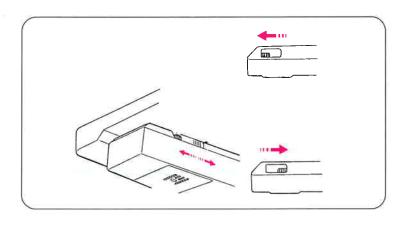
The feed dog must always be up for ordinary sewing.

You may lower the feed dog manually for special sewing techniques such as free motion embroidery. Locate the feed dog lever on the back of the free arm. Slide the lever either to the right (down) or to the left (n).

The feed dog lowers automatically:

- When the patchwork mode freehand quilting key
- is pressed. When the embroidery modes are selected.

See page 26 to use the [ADJ] key for feed dog position.



ENNCTION KEYS

① Up/Down Needle Key

When you press this key:

If the needle is up, the needle will immediately go to its lowest position.

If the needle is down, the needle will immediately go its highest position.

Auto-Lock Key

Press this key while sewing a straight stitch, zigzag stitch (stitches 1, 2, 8 and 9), and the machine will sew a few stitches in place and stop automatically. Press this key while sewing utility or decorative stitches and the machine will complete the stitch, lockstitch and stop.

3 Reverse Key

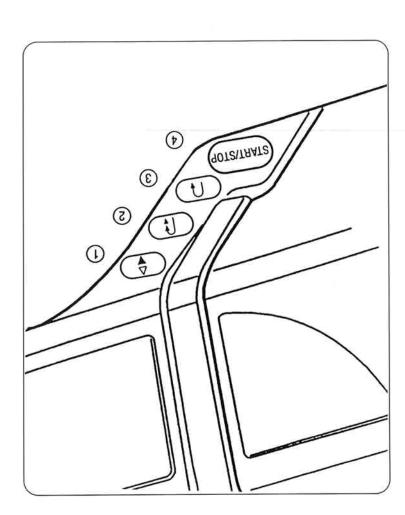
If you are sewing a straight stitch, zigzag stitch or multiple zigzag stitch (stitches 1, 2, 8 and 9), press and hold the reverse key. The machine will sew in reverse until you release the key.

If you are sewing utility or decorative stitches, when you press this key the machine will immediately stop and sew a locking stitch.

Start/Stop Key

The start/stop key operates the machine when sewing automatic embroidery. It may also be used for ordinary sewing. Press the key and the machine speed is determined by setting the speed control lever. See page 7.

NOTE: The light on the key changes from green to red while sewing.



SECTION II

Getting Ready to Sew

Needle and Thread Selection

machine dealer. are many specialty needles available from your sewing needles are used for sewing heavyweight fabrics. There lightweight fabrics and heavier threads and larger In general, fine thread and needles are used for sewing

needles punch small holes in leather and suede allowing eye accommodates heavier weight thread. Leather topstitching, a special topstitching needle with a larger pierce dense fabrics such as denim and canvas. For A denim needle with a sharp tip is used to effectively

and needle size on a scrap piece of fabric. the thread to follow through the hole. Always test thread

permanent and are often caused by damaged needles. Snags and runs in knits, fine silks and silk-like fabrics are Check your needles frequently for rough or blunt tips.

stitches. stretch needle. The stretch needle prevents skipped When sewing stretch, very fine or synthetic fabrics, use a

same thread for needle and bobbin. strong, smooth and consistent in thickness. Use the Always purchase good quality thread. It should be

ЕІСНТ РАВВІС	TYPE OF NEEDLE	NEEDLE SIZE
Chiffon, Georgette, Fine Lace, Organdy, Tulle	Universal Ball Point	(99) 6 (99) 6
Batiste, Voile, Lawn, Pure Silk, Crepe de Sheer Crepe, Chambray, Handkerchief L Challis, Percale, Wool Crepe, Peau de So Satin, Silk Surah, Satin-backed Crepe, C	Stretch Meedle Universal	(37) 11 (37) 11 (08) 21
Single Knits, Jersey, Swimwear, Tricot	Stretch Needle Ball Point	(37) FF (37) FF
Leather, Suede	Wedge Point Leather Needle	(37) 11
Flannel, Velour, Velvet, Muslin, Velveteen Corduroy, Broadcloth, Linen, Chintz, Gab Terry, Burlap, Quilted Fabrics	Universal	(06) 71
lium Double Knits (synthetic and natural), Stre Stretch Terry, Sweater Knits	Juio9 (IsB	(06) 71
Leather, Vinyl, Suede	Wedge Point Leather Needle	(06) 1/1
Denim, Sailcloth, Ticking	Denim Needle	(001) 91
Double Faced Wool, Heavy Coating, Fak	Universal	(001) 91
Leather, Suede	Wedge Point Leather Needle	(001) 91
V heavy Canvas, Duck, Upholatery Fabrics	Universal	(011) 81
Topstitching for Special Finish	Topstitching Meedle	(37) 11 (06) 41

Connecting Machine to Power Supply

identical to your electrical power. voltage and frequency shown on the machine are Before connecting the power cord, make sure the

- the wall outlet. plug in the machine and the power supply plug in switch. Insert the foot control plug and machine To sew using foot control, turn off the power
- and the power supply plug in the wall outlet. switch. Insert the machine plug in the machine To sew using start/stop key, turn off the power
- Turn on the power switch and light switch.
- (6) Foot control Machine plug Foot control plug
- ⑤ Power supply plug Cight switch
- Power switch
- the foot control is plugged in for ordinary NOTE: • The start/stop key cannot be used when
- automatic embroidery. The foot control cannot be used for sewing sewing. (The light on the key will be out.)

For Your Safety

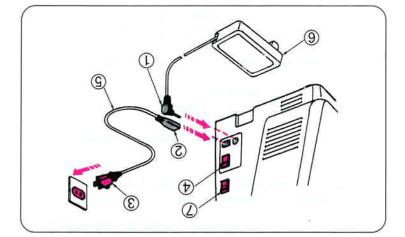
- moving parts such as the thread take-up lever, your eye on the sewing area and do not touch any 1. While the machine is in operation, always keep
- 2. Always turn off the power switch and unplug from flywheel or needle.
- · when leaving the machine unattended, the power supply:
- · when attaching or removing parts,
- when cleaning the machine.
- Do not place anything on the foot control.

Operating Instructions:

not fit, contact a qualified electrician to install the proper not fit fully in the outlet, reverse the plug. If it still does to fit in a polarized outlet only one way. If the plug does To reduce the risk of electric shock, this plug is intended than the other). For appliances with a polarized plug (one blade wider

Machine Model 9008. (CE20) Foot Controller Model 21371 use with Elna Sewing outlet. Do not modify the plug in any way.

(For U.S. market only).



Computer Display Screen

containing the mode selection keys will appear. When the machine is turned on, the menu screen

Mode Selection Keys

- mode. See page 20. Straight stitch, buttonhole and utility
- Decorative mode. See page 54.
- See page 65. 6~**0**₺%∀ Built-in letters and numbers mode.
- Patchwork/quilting mode. See page
- Normal embroidery mode. See page
- Edit design mode. See page 88.

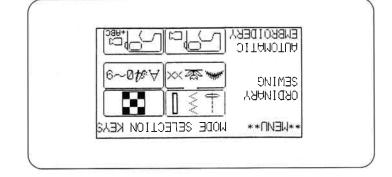
needle position. key and set itself to sew a straight stitch in center The machine will automatically select the

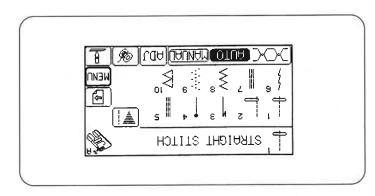
display screen. follow the message that appears on the computer overloaded for a long time. Should this occur, machine will stop automatically if it is running protective circuit to prevent overheating. The NOTE: The Elna CE 20 is equipped with a

before turning it on. After turning off the machine, wait 5 seconds

CAUTION

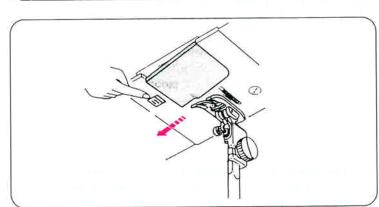
- that is needed. on the stitch/function keys; a light touch is all screwdrivers. It is not necessary to press hard hard or sharp objects such as pencils or display screen or program panel keys with Do not touch the surface of the computer
- Use a dry, soft cloth to wipe off the screen.



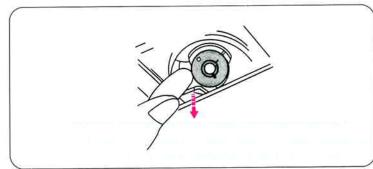


Winding the Bobbin

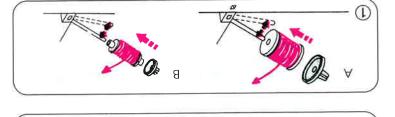
Remove bobbin by sliding the bobbin cover plate release button to the right and lifting away the bobbin cover plate.

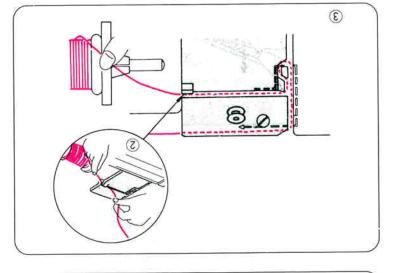


Lift out the bobbin.

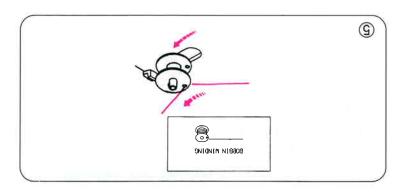


- ① Lift up the spool pin. Place the spool of thread on the spool pin with the thread coming off the spool as shown. Attach the spool holder and press it firmly against the spool of thread.
- NOTE: Spool holder needs to be changed according to the type of thread spool. A. Large spool B. Small spool
- A Hold the upper thread with both hands and press it downwards into the slit.
- © Guide the thread around the thread guide following diagram.
- $\ensuremath{\mathfrak{a}}$ Pass the thread through the hole in the bobbin from the inside to the outside.

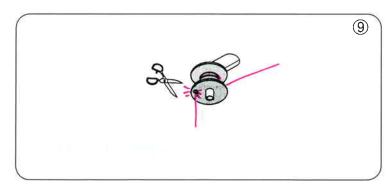




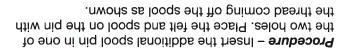
⑤ Place the bobbin on the bobbin winder spindle and push it to the right. (The computer display screen will show "Bobbin Winding" message.)



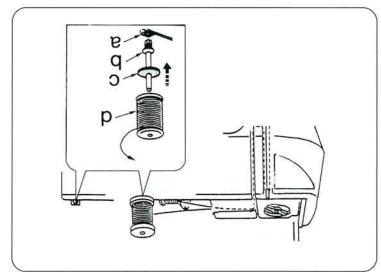
(a) Holding the free end of the thread, press the foot control. Stop the machine when it has made a few turns and cut the thread tail close to the hole in the bobbin. Press the foot control again. When the bobbin is fully wound, it will stop automatically.



- Return the bobbin winder to its original position by moving the spindle to the left; cut the thread as shown.
- The machine will not sew until the spindle is in the left position.
- The machine stops automatically after 2 minutes.
- The additional spool pin may be used to wind an extra bobbin without unthreading the machine.

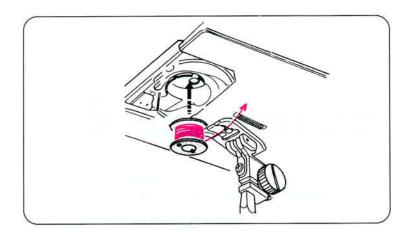


- a. Additional spool pin hole b. Additional spool pin
- c. Spool pin felt
- d. Thread spool

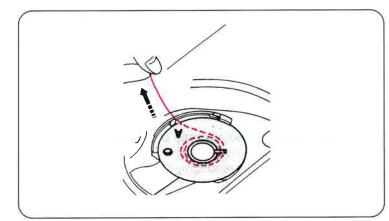


Inserting the Bobbin

Place the bobbin in the bobbin case with the thread running <u>counterclockwise</u>.

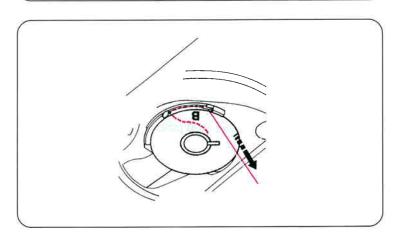


Guide the thread into notch A on the front side of the bobbin case.



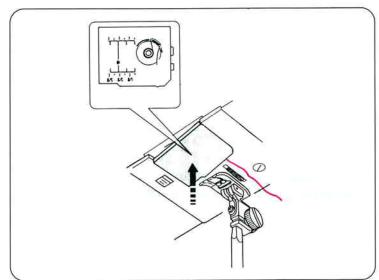
Hold the bobbin with your right hand and pull the thread to the left, through the tension spring blades. Continue pulling the thread lightly until the thread slips into notch B.

Pull out about 15 cm (6") of thread.



Replace the bobbin cover plate.

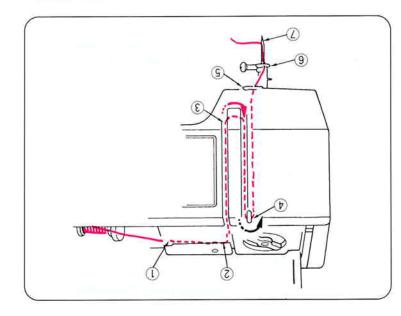
Check the threading by referring to the diagram shown on the bobbin cover plate.



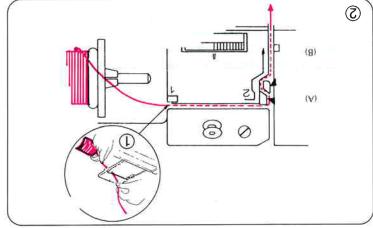
Threading the Machine

Raise the presser foot. Press the up/down needle key until the needle is in an up position.

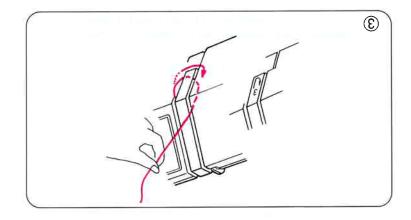
 Pull the thread away from the spool pin and with both hands press the thread downwards into the elit



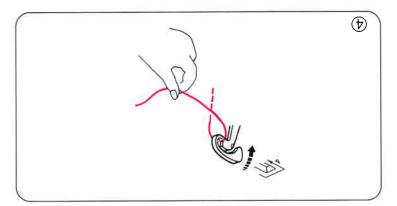
© Pull the thread around thread guides A and B.



Guide the thread down and around the checkspring holder.



 Firmly pull thread from right to left, over the takeup lever and down into the take-up lever eye.



- © Proceed down through the lower thread guide.
- Slide the thread to the left behind the needle bar thread guide.
- Thread the needle from front to back or use the automatic needle threader.
- This machine is equipped with a thread breakage sensor. If the machine is run without thread, it automatically stops after about 10 cycles.



Raise the needle to its highest position. Lower the needle threader lever as far as it will go.

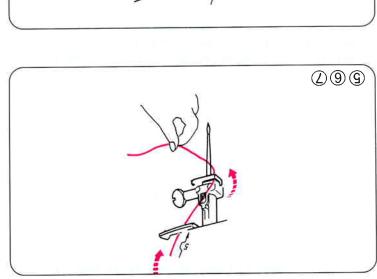
Turn the lever in the direction of the arrow in the illustration, then insert Hook A into the needle eye. Bring the thread around Guide B and under Hook A.

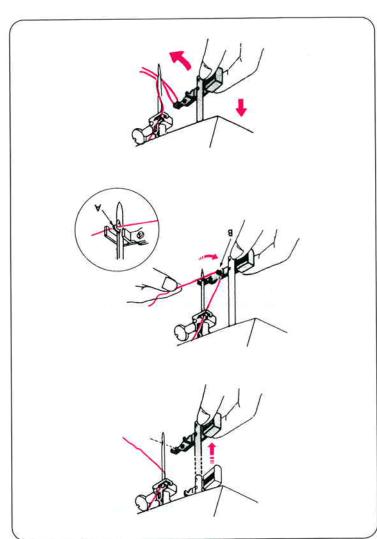
Turn the lever in the direction of the arrow in the illustration, drawing the thread loop through the needle.

Release the lever and let the needle threader return to its original position.

Manually bring the thread through the needle eye by pulling the thread loop to the back.

The needle threader can be used with #11 to #16 size needles. Thread weight may vary from 30 to 100.





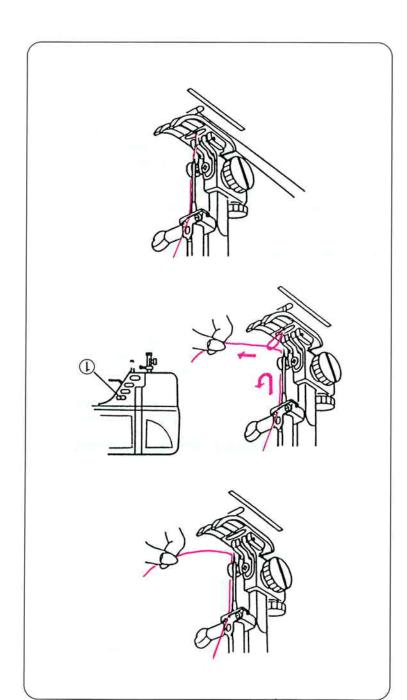
Drawing Up the Bobbin Thread

Raise the presser foot. Hold the needle thread lightly with your left hand.

Press the up/down needle key twice to pick up the bobbin thread. Draw up the needle thread together with a loop of bobbin thread.

① Do/down needle key

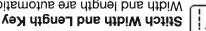
Slide 10 cm (4") of both threads to the back under the presser foot.



SECTION III

Straight Stitch, Buttonhole and Utility

Function Keys and Stitch Selections



adjust stitch width or length. selecting the stitch. Press the 📳 key to Width and length are automatically set after



from screen A to B to C to D. various options. Press the 📳 key to move The screens may be alternated to show the Next Page Key

various options. Press the 🗐 key to move The screens may be alternated to show the Previous Page Key



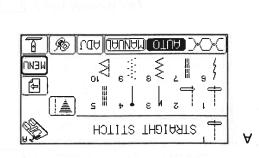
Needle Stop Position Key

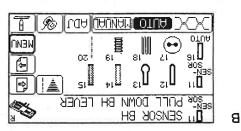
the up or down positioning after sewing. The needle stop position key only activates

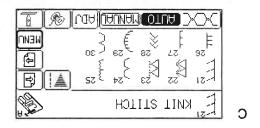
from screen D to C to B to A.

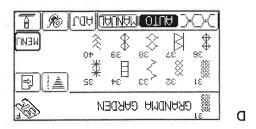
nwob gots of Meedle will stop down and will continue

dn dots Meedle will stop up and will continue to





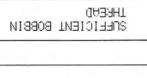




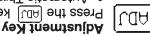
Press the 😿 key. **Bobbin Thread Sensor Key**

not there is sufficient bobbin thread. A message will appear indicating whether or

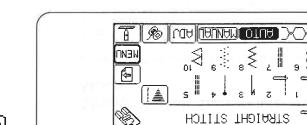
reads "Bobbin Thread Almost Out". Replace bobbin thread when the message



TUO TZOMJA BOBBIN THREAD



- Automatic Thread Tension See page 25. Press the ADJ key to change:
- Cloth Guide Position See page 25.
- Feed Dog Position up or down See
- Free Arm See page 26. page 26.
- Cm/Inch Indication See page 27.



· COMER FEED DOG

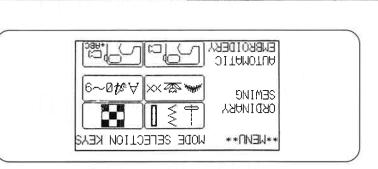
• RAISE FEED DOG

JAUNAM OTUA Auto Manual Key

to change the tension. after selecting a stitch. Press the MANUAL key The machine automatically sets the tension



display screen to the menu screen. Press the MENJ key to return the computer Menu Key



· REMOUE FOOT CONTROL

PRESS START BUTTON

OK SENSOB

• AFTER CHECKING FEED DOG UP,

·BOBBIN THREAD ALMOST OUT

OK Sensor

key and continue sewing. starts, check the items listed, then press the 🖂 If the OK sensor appears on the screen after sewing

to lower the feed dog.) (If the darning stitch is selected, you will be reminded

How to Select a Stitch

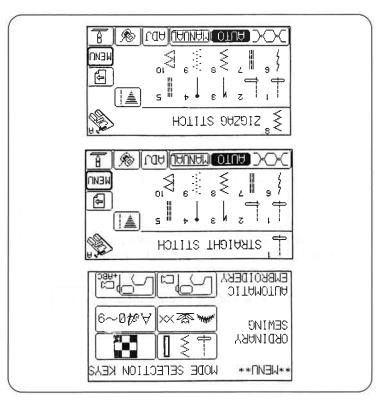
Press the

straight stitch in center needle position. The machine sets itself automatically to sew a

Press the ∰ key.

corner of the screen. Stitch 👸 is selected and indicated in the upper left

The upper right corner suggests the appropriate foot

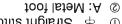


Straight Stitch

stitch in the center needle position. (Press the two and machine will use left needle position.) Press the key. The machine will sew the straight

zipper insertion, pintucks and rolled hems. The basic straight stitch is used for sewing seams,

① 💠 Straight stitch



Starting to Sew

Lower the needle to the point where sewing is to begin. seam allowance line on the needle plate. See page 8. Raise the presser foot and position the fabric next to a

the fabric feed naturally. guide the fabric along the seam allowance line letting lower the presser foot. Press the foot control. Gently Pull the threads under the foot towards the back and

press and hold the reverse key while sewing. To fasten the threads at the beginning of a seam,

- ③ Presser foot lever

Changing Sewing Direction

change sewing direction. Lower the presser foot. presser foot. Pivot the fabric around the needle to fabric by pressing the up/down needle key. Raise the Stop the machine and bring the needle down into the

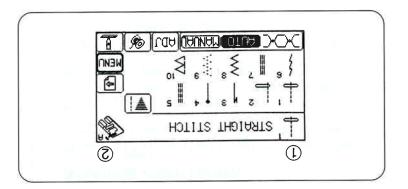
⑤ Presser foot lever ⑤ Up/down needle key

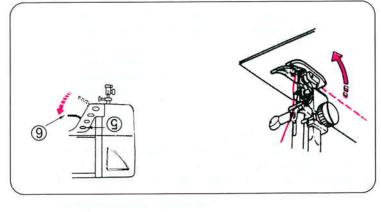
Finishing Off a Seam

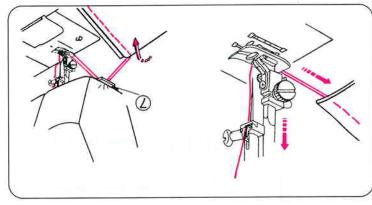
hold the reverse key while sewing. To fasten the threads at the end of a seam, press and

the next seam.) cutter. (The threads are cut the proper length to start threads to the back and cut threads using the thread Raise the presser foot. Remove the fabric; pull the

Thread cutter





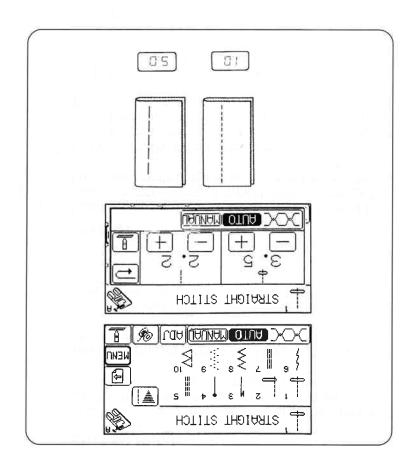


Adjusting Stitch Length

Press the Fight Side keys; press Aey to decrease and Hey to increase.

The pre-programmed setting is suitable for most of your sewing needs; sometimes different fabrics require an adjustment to be made.

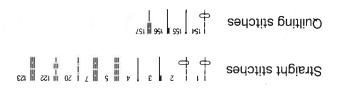
- * Press and hold down the ____ key or ___ key to quickly change the display.
- The reverse stitch length will not sew any longer than 3 mm (1/8").

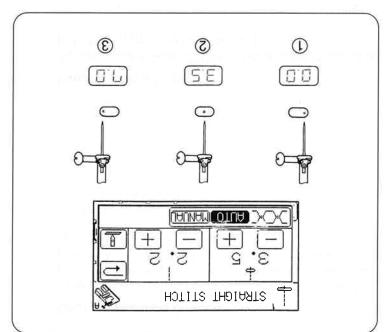


Variable Meedle Positions

The straight stitches and quilting stitches listed below allow you to move the needle to any position. There is a total of 15 needle positions. Press the Fig. Key. Use the left side keys; press — key to move left and + key to move right.

- ① Left position
- © Center position
- a Right position





Thread Tension

The Elna CE 20 is programmed to automatically set the tension according to the stitch. The "Auto" setting will occasionally need to be set manually for:

- Stiff and thick fabric
- Numerous fabric layers
- Special sewing techniques

The ideal straight stitch will have threads locked between the two layers of fabric, as shown left (magnified to show detail).

① Needle thread ② Bobbin thread

 When sewing a zigzag stitch, the needle thread should appear slightly on the fabric underside.

Look at the top and bottom of the stitch. Notice that there are no gaps; each stitch is smooth and even.

When adjusting needle thread tension, the higher the number, the tighter the needle thread.

Tension is too tight

The bobbin thread shows through on the top side of the fabric and feels bumpy.

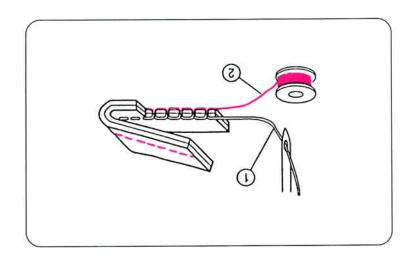
Press $\begin{tabular}{ll} \label{localize} \begin{tabular}{ll} \$

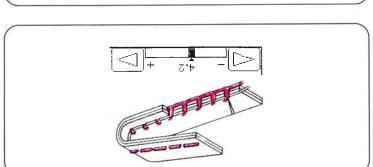
• Tension is too loose

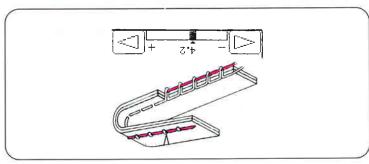
The needle thread shows through on the underside of the fabric and feels bumpy.

Press MANUAL key. Press D to increase tension.

- * "w" mark indicates auto position.
- $\ ^{\star}$ To return the thread tension setting to auto, select the stitch.







Auto Thread Tension

and will affect all selected stitches. The "Auto" (default) thread tension may be altered

Press the |ADJ | key.

Press the

Press the |+| key to increase tension if tension is too tight.

- | key to decrease tension if tension is

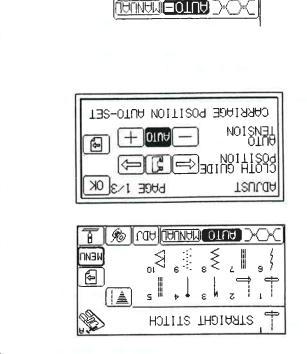
too loose.

Press the | 0K | key.

machine is turned off. * New settings stay memorized even when the

"-" indicates looser "Auto" setting.

"+" indicates tighter "Auto" setting.





Cloth Guide

carriage holes. Attach the cloth guide by inserting the pins in the

© Carriage aniq ()

Press the ADJ key.

needle position to the cloth guide. machine is set for centimeter or inch) from center moves 15 mm or 5/8" (depending on whether Press the picture [] of the cloth guide and it

Customize the cloth guide distance by pressing the

Press the OK key.

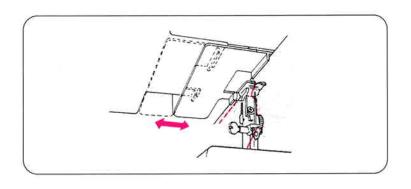
When operating the

position, raise it by pressing the up/down needle key. needle should be raised. If the needle is in the down

pressing the [] key until the [] is indicated. * Return cloth guide to its original position by

Press the | 0K | key.





Raise or Lower Feed Dog

Raise the needle to the up position.

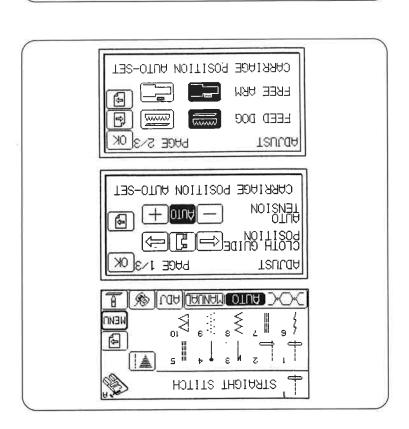
Press the [ADJ] key.

κeλ. Press the

Press the [or [key.

Press the | 0K | key.

See page 9 to manually position the feed dog.



Free Arm and Carriage Position

to expose a longer free arm. The carriage may be moved away from the machine

the machine is even or above the cabinet surface.) movement. (If the machine is in a cabinet, check that surface of anything that might obstruct the carriage Raise the needle to the up position. Clear the table

Press the ADJ key.

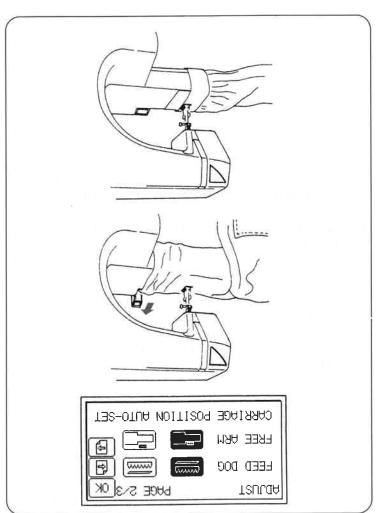
Press the кеу.

RO

Press the ____ key to move carriage out.

key to move carriage in. Press the

Press the OK key.



Centimeter/Inch Indication

centimeters or inches. and cloth guide screen may be indicated in either Measurements appearing on the patchwork mode

Press the |hDJ| key.

Press the | 🖹 | key twice.

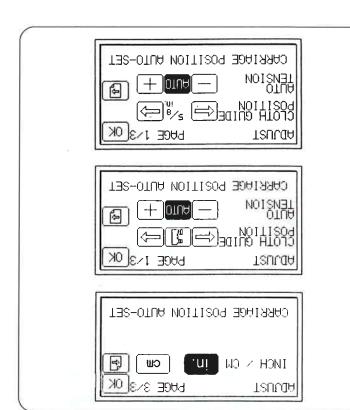
Press the in. or cm key.

Press the OK key.

even after turning off the power. The machine will retain the measurement indication

Example: Press the [ADJ] key.

position display. The measurement will appear in the cloth guide Press the Land key.



Gathering

- ① 🐈 Straight stitch
- © A: Metal foot
- .0.5 0.1 of noisnet Press MANUAL key. Press | | key to decrease

light to medium weight fabric. increase stitch length to 5.0. Press Rey. Use Press 📳 key. Press right side key and

next to first row using foot A as guide. Leave long to raw edge using foot A as guide. Sew second row Sew two rows of parallel stitches. Sew first row next

Pull on the bobbin threads simultaneously from each thread tails at beginning and end of each row.

end of the fabric until the desired amount is gathered.

gathers evenly. Knot the threads at each end and distribute the

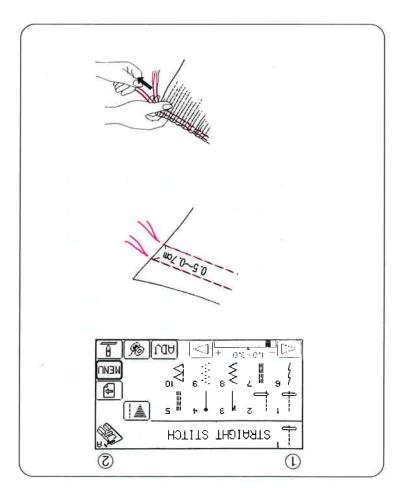
stitch settings. Press 💠 key to reset machine for regular straight

Sew between two rows of stitching to secure

gathering.

RO

gathering stitches. fabrics together directly on the second row of Lay gather fabric over flat fabric and sew the two



Zipper Insertion

- ① + Straight stitch
- © E: Zipper foot

Attach the pin on the zipper foot to the groove on the

- foot on the right-hand side. To sew the left side of the zipper, attach the zipper
- To sew the right side of the zipper, attach the
- zipper foot on the left-hand side.
- ni¶ ⊕ 3 Groove
- abis thel was @
- Sew right side

Fabric Preparation

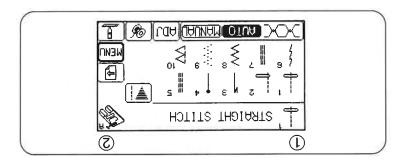
measurement and mark the opening for the zipper. Add 1 cm (3/8") to the zipper size. Use this

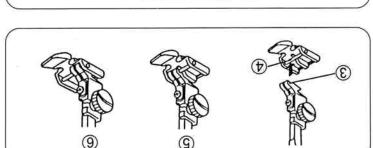
sew the stitches directly below the zipper placement.) located below zipper placement. (Make sure to reverse Place right sides of fabric together and sew the seam

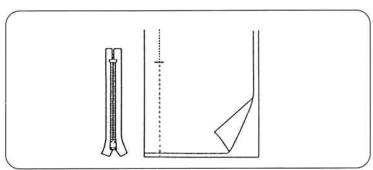
opening closed. Press the seam and basting seam Increase stitch length to 4.5 and baste the zipper

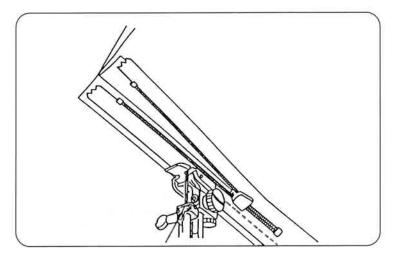
Lapped Application

bottom to top. left side pin. Baste zipper in place, sewing from is 1 cm (3/8") from fabric top edge. Attach foot with allowance. Teeth are on the seam line and zipper top Open zipper and place it face down on the seam

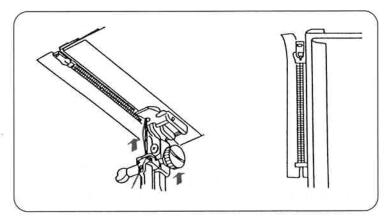






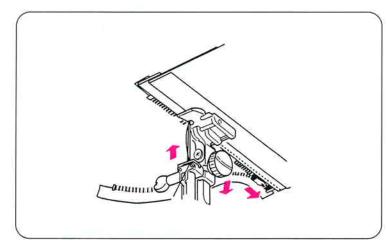


allowance and zipper tape. Starting at the bottom, sew through the folded seam with right side pin. Reset straight stitch length to 2.2. smooth zipper teeth away from seam. Attach foot allowance forms a small fold at basting line) and Close zipper. Turn zipper face up (right seam

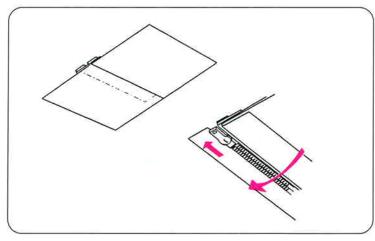


Zipper Sewing (cont'd)

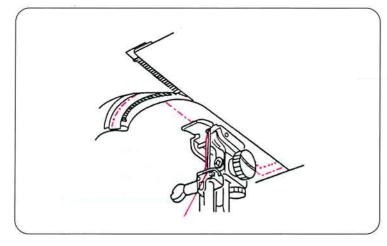
Stop just before the zipper foot reaches the slider on the zipper tape. Lower the needle slightly into the fabric. Raise the zipper foot and open the zipper. Lower the foot and stitch the remainder of the seam.



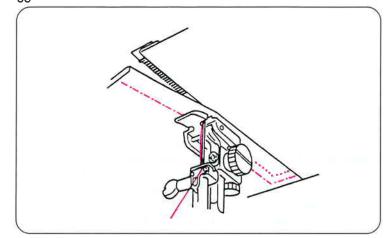
Close the zipper and spread the fabric flat with the right side facing up. Baste through the opened seam allowance and zipper tape.



Move the sipper foot to the left side pin. Guide the edge of foot along the zipper teeth and stitch through the garment and zipper tape. Stop about 5 cm (2") from the top of the zipper.



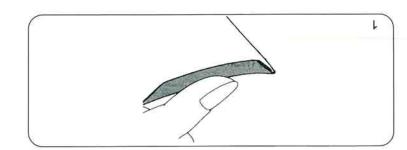
Slightly lower the needle into the fabric. Raise the foot, remove the basting stitches and open the seam, Lower the foot and stitch the remainder of the seam, making sure the fold is even.



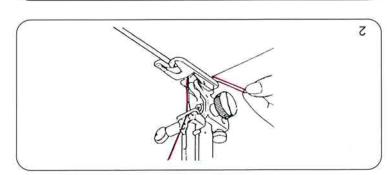
Rolled Hem

used in bridal wear. straight stitch. Recommended for fine, sheer fabrics An easy, professional way to sew hems using the

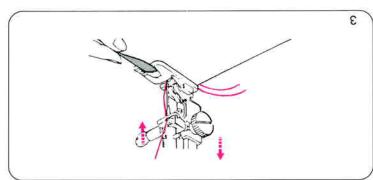
- ① 💠 Straight stitch
- ② D: Hemmer foot
- MENU **(4)** STRAIGHT STITCH
- cm (3") in length. 1 Make a double 3 mm (1/8") fold approximately 8



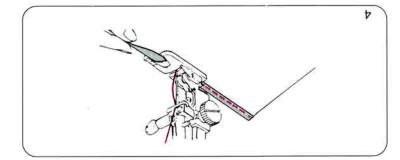
bobbin threads. 3 or 4 stitches while holding the needle and sewing is to begin; lower the hemmer foot D. Sew 2 Lower the needle into the fabric at the point where



into the curl of the hemmer foot. hemmer foot. Insert the folded portion of the fabric 3 Lower the needle into the fabric and raise the

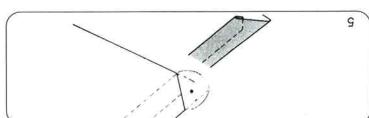


of the fabric to keep it feeding smoothly. 4 Lower the hemmer foot; sew by lifting up the edge



bulk. See signs stitch with stitch width 5 Trim about 6.5 mm (1/4") from corners to reduce

1.0 - 2.0 for variation.



Pintucks

sny project. Pintucks are a beautiful accent that may be added to

.enoienemib pintucks before cutting out the final project Plan extra fabric to sew the pintucks. Create the

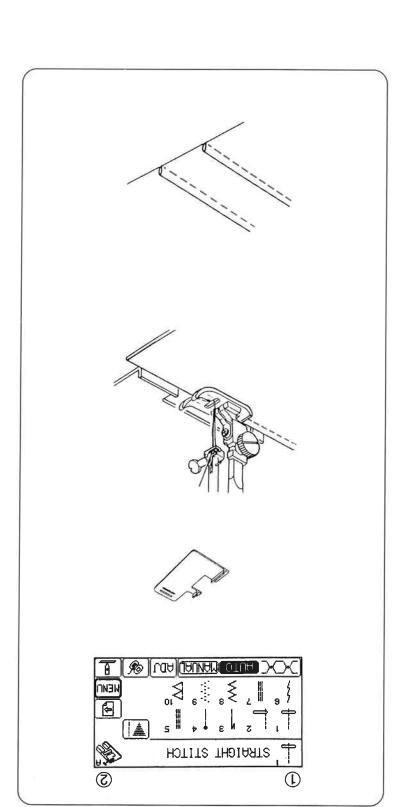
① \$\dapprox \text{Straight stitch}\$ Or Wetal foot

between 1 mm and 3 mm (1/16" and 1/8"). See page Attach cloth guide and set cloth guide distance

drawing parallel lines for pintuck placement. Using a washable marker, prepare the fabric by

guide. Sew remaining pintucks in same method. presser foot. Sew, guiding the fabric along the cloth Position folded edge next to fabric guide. Lower the Fold fabric on first line with wrong sides together.

Press pintucks to one side.



Quilting

Quilting is produced by stitching two layers of fabric together with batting in between to add dimension and warmth.

Traditionally used for bedspreads, quilting is now used for crafts, garments and home decorating.

Straight stitch

s A: Metal foot

The quilting bar is a guide for sewing parallel rows of

stitching.

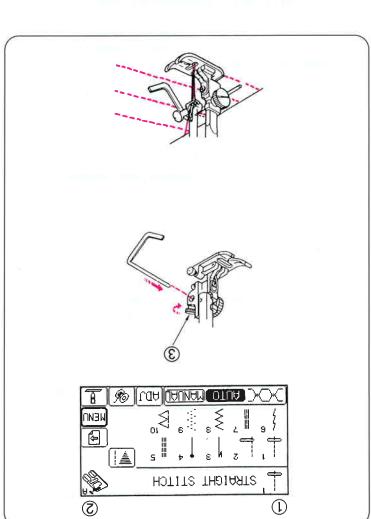
Attach the quilting bar by loosening the quilting bar screw.

Slide the quilting bar into the opening, set the width between stitching rows and tighten screw.

③ Qulting bar screw

Use a washable marker to draw the first line for stitching. Sew over line.

Sew all other rows guiding the quilt bar over the previous row of stitching.

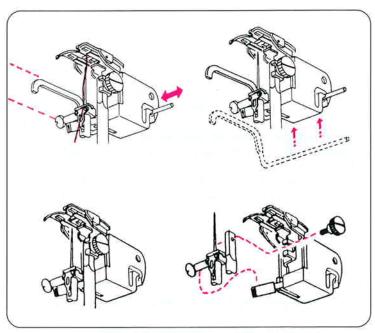


Walking Foot

The walking foot may be necessary to prevent quilt layers from shifting during the quilting process. The walking foot is also effective in preventing slipping or puckering because the fabric is between an upper and lower feed dog.

Attach the walking foot by raising the needle and presser foot. Remove the shank. Place the walking foot on the presser bar with the lever over the needle clamp screw; secure it with the thumbscrew.

Attach the walking foot quilting bar to the walking foot foot to sew parallel rows. Insert the walking foot quilting bar into rear groove on foot. Slide the walking foot quilting bar to set the width between rows.



Twin Needle Hem

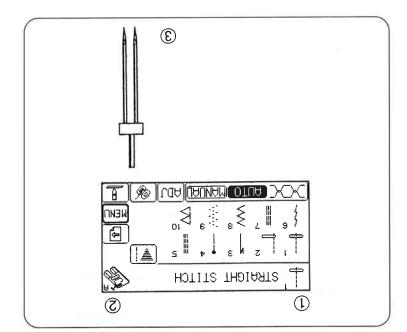
A twin needle hem is quick and easy, especially useful for very stretchy fabrics. Be sure to use a stretch twin needle for knit fabrics.

Turn off the power switch and insert a twin needle.

Insert the additional spool pin and place the spool pin felt and second spool on it. See page 15.

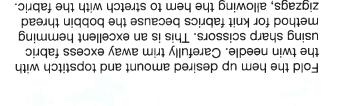
Use the center needle position.

- ① + Straight stitch
- © A: Metal foot
- Twin needle (stretch twin needle for knits)

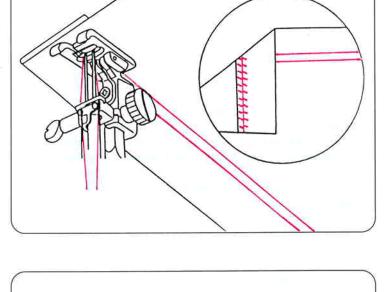


Threading the Machine

- ①-④ Thread 1 through 4 in the same manner as single thread. See page 17.
- ⑤ Draw the threads down and slide them through the right side of the lower thread guide.
- Slide one of the threads through the needle bar thread guide on the left and through the other one on the right.
- Thread the needles from front to back.
- The needle threader cannot be used with a twin needle.



Remove twin needle. Set up machine for single needle sewing.



Straight Stitches (Variations)

Purpose	Computer Display Screen	Meedle noitisoq
This stitch can be used for sewing and regular seams, zippers, pintucking and rolled hems.	Т, этвы вні втітсн	Center
This stitch can be used for regular seams, zippers, topstitching, etc.	STRAIGHT STITCH	J. S. I. S.
The machine will sew four stitches forward, four stitches in reverse, then continue sewing forward. When you reach the end edge of the fabric, press the reverse key. The machine will sew four reverse stitches, four forward stitches, then automatically stop.	■ 3 LOCK-A-MATIC Display when sewing the reverse sewing the reverse	Teff
Lower the needle close to the front edge of the fabric. The machine will sew several locking stitches in place and continue sewing forward. When you reach the end edge of the fabric, press the reverse key. The machine will sew several locking stitches in place, then automatically stop.	PRESS"P" AT END OF SEAM SEWING THE REVERSE SEWING THE REVERSE SEWING SEWING THE REVERSE SEWING THE	₽ •
This strong, durable stitch is recommended where both elasticity and strength are needed to ensure comfort and durability. Use it to reinforce areas such as crotch and armhole seams. It adds extra strength when constructing items such as backpacks. It is wonderful for topstitching suits, blazers, jumpers and denim outfits.	телен этитен № телен этитен №	1197 111 111 111
This stitch is a narrow stretch stitch designed to eliminate puckering on knit fabrics and bias seams, while permitting the seam to be pressed completely flat. The stitch can also be used to simultaneously seam and overcast when sewing on tricot and chiffons for a narrow, almost invisible seam or seam finish.	STRETCH STITCH	Center 6

Whip and Roll Hem

heirloom sewing. and hems. Whip and roll is commonly used in This technique produces a beautiful edge on ruffles

Change stitch width to 3.5 and stitch length to 0.8.

on the left and clear the raw edge on the right, rolling the center of the foot. The zigzag will catch the edge The fabric edge must be clean. Lay the fabric edge in

the fabric.

Substitute F: Satin stitch foot

Instead of A: Metal foot

Zigzag stitch

Satin Stitch Applique

of 100% cotton, rayon or silk provide the best results. monogramming, stems of flowers and petals. Threads The satin stitch is commonly used for applique,

Change stitch width to 3.5 and stitch length to 0.35.

formation. Apply stabilizer to the fabric for proper stitch

Applique Preparation

- lightweight fabric. Press fusible webbing to the wrong side of a
- Cut out design shape. Fuse design to main fabric.
- Sew design to fabric with the needle swinging off
- the applique.
- Zigzag stitch

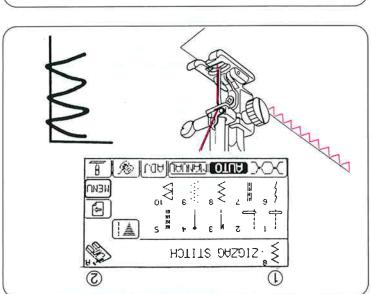
Instead of A: Metal foot

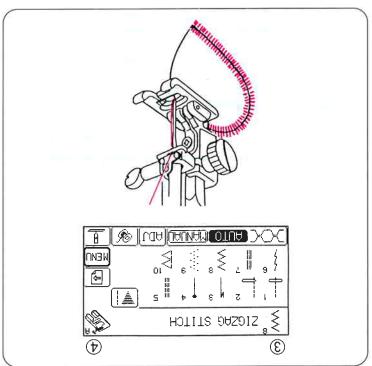
Zigzag Overcast

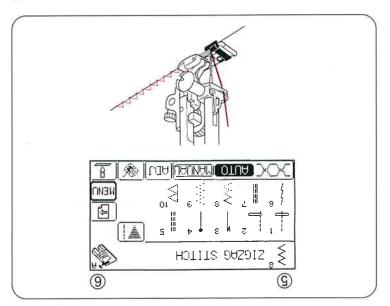
Zigzag stitch

.O foot

- Substitute C: Overcast foot Instead of A: Metal foot
- * Do not change the stitch width when using overcast foot ensures the thread lies flat with no puckering. the fastest way to finish an edge. The brush on the This stitch can be used on most woven fabrics. It is
- Sew. Place the fabric edge next to the foot black guide.







Overcast Stitches (Variations)

		X =
This stitch finishes the edges of your seams similar to a commercial overlocking machine for a professional look.	NAXA (
The double overedge stitch is an excellent stitch for fabrics that tend to fray extensively, such as linens and gabardines. Two rows of zigzag stitches are simultaneously sewn over the edge.	SARARA (STITCH STITCH STITCH
The knit stitch is recommended for sewing such fabrics as swimwear and stretch velour as it provides the greatest amount of elasticity and strength.	111111111111111111111111111111111111111	ENTI STITCH
The overcast stitch can be used to sovercast seams in simultaneously stitch and overcast seams in one step. Use this stitch when you do not need to press seams open. Test the stitch on the fabric before sewing project.	JXXXXXX	© OUERCASTING ©°
The multiple zigzag stitch is used to finish seam allowances on synthetics and other fabrics that tend to pucker. The stitch is excellent for darning and mending tears in fabric. Sew next to fabric edge and hand trim away excess seam allowance.		8€ BASBIS ∃J9ITJUM €
The zigzag stitch is used to finish raw edges, roll hems, satin stitch appliques and create beautiful monograms.	VAVAVAVAVA	₩ HOTITS DASDIS \$
Purpose	Stitch	Computer Display Screen

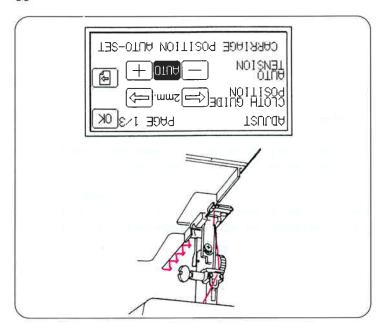
Overcasting with Cloth Guide

Attach cloth guide. See page 25.

- © Select stitch 10 and attach overcasting foot M.
- ② Press the [ADJ] key and set the cloth guide distance 2 mm (1/16") by pressing the (Press the OK] key.)
- (Press the lor) key.)

 ③ Start sewing, feeding the fabric next to the fabric guide.
- * To return the cloth guide to its original position, keep pressing the key until the red key is indicated.

Press the OK key.



Sensor Buttonholes

Press the 🗐 key.

All buttonholes should use interfacing suitable for the fabric weight. This is especially important when sewing on stretch fabrics. There are five variations of sensor buttonholes:

- ① **Classic Buttonhole** For buttonholes on shirts and blouses
- Rounded Buttonhole
 For buttonholes on fine fabrics
- elodrottug elodve X
- Reyhole ButtonholeFor buttonholes on jackets
- Knit Buttonhole For knit fabrics
- Stretch Knit ButtonholeFor stretch fabrics.

Test sew the buttonhole on a sample swatch of the same fabric. Include the interfacing and any seam allowances that will be in the actual garment. This is very important to ensure the buttonhole style and fabric are compatible.

Press the key to select a buttonhole style. Alter the buttonhole width to match the fabric and thread. See page 42.

Raise the needle and presser foot.

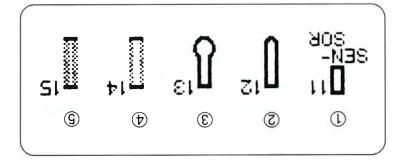
Attach the automatic buttonhole foot R. Make sure the button opening is at the back of the foot when it is attached.

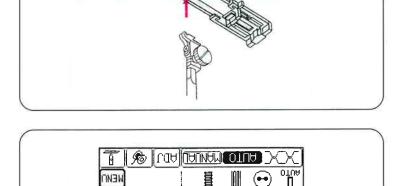
Extend the buttonholder to the back and place the button in it. Push the holder together tightly around

The size of the buttonhole is automatically set by placing the button in the automatic buttonhole foot. The buttonholder on the foot adjusts for a button up o 2.5 cm (1") in diameter.

® Buttonholder

the button.

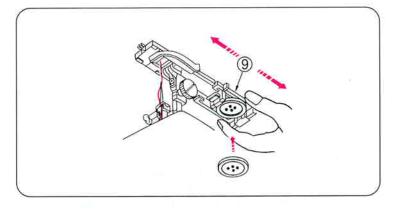




DOMN BH CENER

PULL

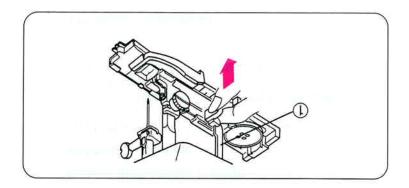
SENSOR BH



Sensor Buttonholes (cont'd)

Pull the buttonhole lever down as far as it will go.

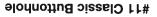
Buttonhole lever



buttonhole foot. the starting point. Then lower the automatic the garment under the foot and lower the needle at Place both threads to the left under the foot. Insert

- Mark buttonhole placement
- 3 Starting point

the buttonhole and stops by itself. Press the foot control until the machine completes



The buttonhole will automatically sew:

- ① the front bartack and zigzag on left side
- straight stitch on right side to front bartack
- back bartack and stop ® zigzag on right side

#12 Rounded Buttonhole

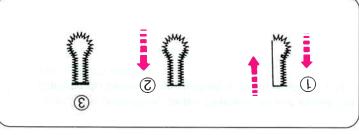
The buttonhole will automatically sew:

- The front left half of rounded end, zigzag on left
- əpis front right half of rounded end and zigzag on right side and straight stitch on right side to front
- ③ pack bartack and stop

#13 Keyhole Buttonhole

The buttonhole will automatically sew:

- and straight stitch on right side to front $\ensuremath{\mathbb{O}}$ the front left half of keyhole, zigzag on left side
- © front right half of keyhole and zigzag on right side
- ③ back bartack and stop





3

#14 Knit Buttonhole Sensor Buttonholes (cont'd)

The buttonhole will automatically sew:

- ① front bartack and triple zigzag on left side
- Фаск рацаск
- © triple zigzag on right side and stop

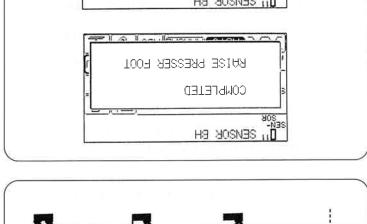
#15 Stretch Buttonhole

The buttonhole will automatically sew:

- straight stitch on left side backwards
- © cross stitch forward on left side and front bartack
- ряцяск ③ straight stitch on right side backwards and back
- cross stitch forward on right side and stop

will display message "Completed".) and "Raise Presser Foot". (Buttonholes #14 and #15 finished. The display message will read "Completed" The machine signals you when the buttonhole is

#14 and #15 will display no message.) "Repeat Same Buttonhole" will appear. (Buttonholes Raise the presser foot and the display message



300000000

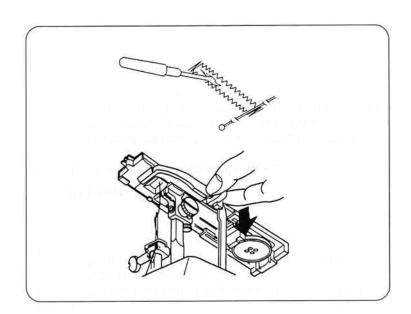
1

REPEAT SAME EXIL SEN-BLI SENSOK BH

to start from the beginning. Sew. Press the Burokoce key to sew another buttonhole or

buttonhole lever upward as far as it will go. When buttonhole sewing is finished, push the

use a seam ripper. bartack (to prevent accidentally cutting bartack) and To cut the buttonhole open, place a pin just inside the

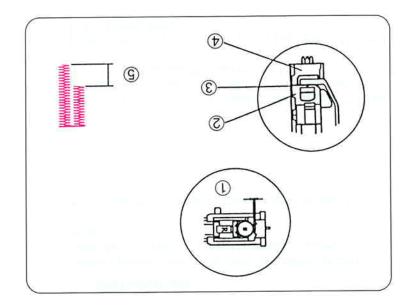


Sensor Buttonhole (cont'd)

If the button is extremely thick and difficult to fit through the test buttonhole, you can lengthen the buttonhole by pulling back the buttonholer on the foot a little extra. The length of the buttonhole will increase by that same amount.

- Buttonholder
- © Slider
- ③ There should be no gap
- Spring holder
- ⑤ Incorrect buttonhole

Make sure there is no gap between the slider and spring holder. If there is a gap, the sides of the buttonhole will be different lengths (\mathfrak{G}) .



How to Alter Buttonhole Stitch Width and Length

Press the

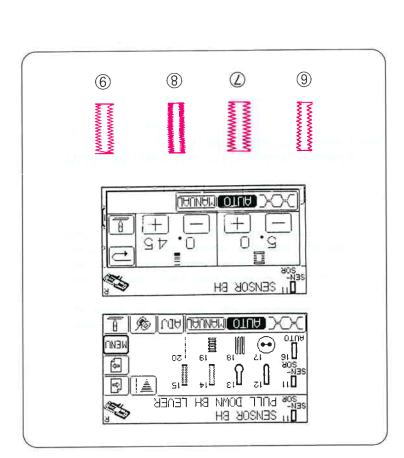
The pre-programmed stitch settings are shown on the screen.

Press the ___ or ___ key to alter the buttonhole.

- Marrow width
- Wider width
- Shorter stitchShorter stitch
- ⑤ Longer stitch

Adjust stitch length to correlate with fabric and thread weight. Use a short stitch length for fine fabric and thread; use a long stitch length for heavy fabric and thread.

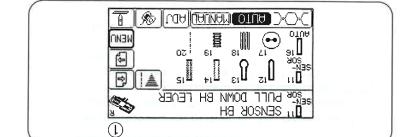
Press the 🔁 key.



Corded Buttonhole

Sew a corded buttonhole using the same procedure described on pages 39-41 for a classic buttonhole style.

Set the stitch width to match the thickness of the cording.

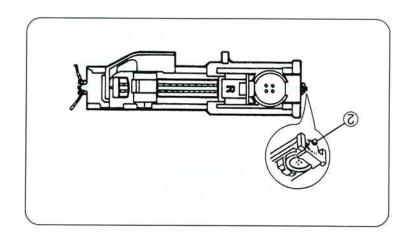


With the buttonhole foot raised, hook the filler cord on the spur at the back of the buttonhole foot. Bring the ends forward under the buttonhole foot.

Position the cord into the forks on the front of the foot to hold them tight.

① R: Automatic buttonhole foot

3 Spur

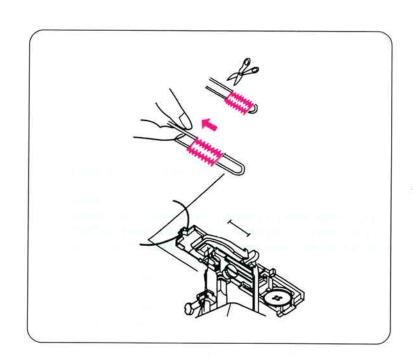


Lower the needle into the garment where the buttonhole will start and lower the presser foot.

Press the foot control and slowly sew the buttonhole. Each side of the buttonhole and the bartacks will be sewn over the cord. Remove the fabric from the machine and cut only the sewing threads.

Pull the left end of the cord to tighten it. Thread the end through a darning needle, draw to the wrong side of the fabric and cut.

Cut open buttonhole.



Automatic Buttonhole

any seam allowances. swatch of the same fabric. Include the interfacing and fabric weight. Test sew the buttonhole on a sample All buttonholes should use interfacing suitable for the

completely open. automatic buttonhole foot R. Extend the buttonholder Raise the needle and presser foot. Attach the

point. Lower the foot. under the foot and lower the needle at the starting threads to the left under the foot. Insert the garment Mark buttonhole placement on garment. Place both

desired length is sewn. Sew the left buttonhole side. Stop sewing when

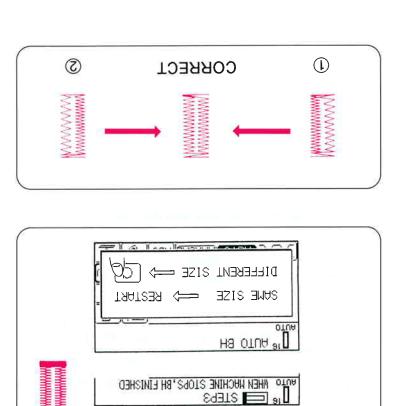
Press the reverse key.

length. sewing when the right side length is same as left side Sew the bartack and right buttonhole side. Stop

Press the reverse key.

stitches and stop automatically. Sew the bartack and let the machine tie off the

foot control. Sew another buttonhole; position the fabric and press



PSESS"A"AI STARI POSITION

AUTO AFTER DESTRED LENGTH PRESS "O."

TO DELINARY OTO

AND EXTEND BH FOOT FULLY

H8 OTUA

NEND

2 STEP2

le 💳 SIEbī

Fine Tuning Adjustment

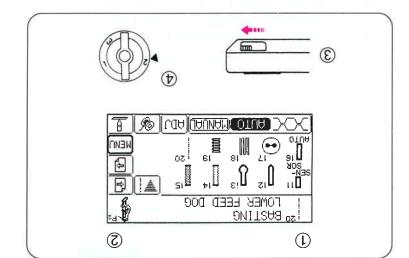
Stitches on each side of the buttonhole should be

- the fine tuning dial towards the "+" sign. $\ensuremath{\mathbb{T}}$ If the stitches on the left side are too far apart, turn
- the fine tuning dial towards the "-" sign. If the stitches on the left side are too close, turn

Basting

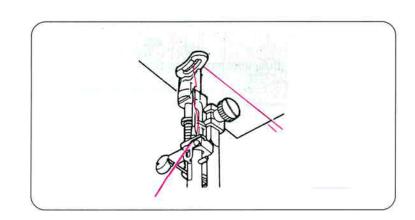
The basting stitch can be used to temporarily hold two or more layers of fabric together. Use a fine needle to avoid leaving permanent needle marks.

- so Basting
- © P2: Darning foot (see page 36)
- ② Lower feed dog (see page 9)④ Set foot pressure dial to 2 (see page 6)



Pull needle and bobbin threads behind the presser foot. Place fabrics under foot and lower presser foot.

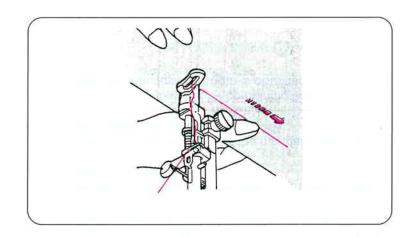
Press the foot control. The machine will sew one stitch and stop.



Hold the fabric firmly and move it to the area for the next stitch. Press the foot control.

Continue the procedure until all basting is complete.

* When basting is complete, reset foot pressure dial, attach shank and raise the feed dog.

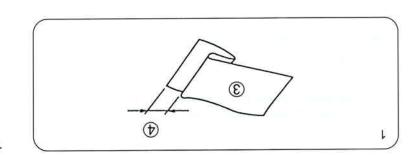


Blind Hem Stitch

Press the 🔄 key.

or § Stretch blind © G: Blind hem foot Stretch blind hem med brild nevoW 25,

- & LOA JAUNAM OTUA CHUNCE MIDIH "≛!" BLIND HEM
- 10 mm (1/4" to 3/8") extension at the right. the hem toward right side of garment. Leave a 6.5-Fold up the hem allowance and press. Fold under
- ③ Wrong side of fabric
- ("8/E of "4/t) mm 0t 3.3 (**)



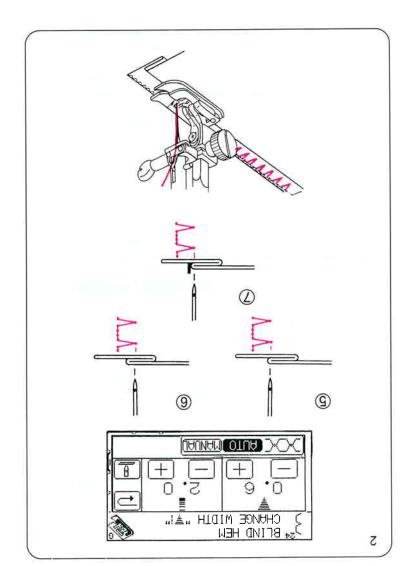
Press the Fig. Key. Adjust the position of needle

side of the guide. Lower the presser foot.

2 Position the fabric so the folded edge is to the left

- needle catches only one or two fibers of the fold. swing with the stitch width key. Make sure the
- 1191 noitizoq əlbəən əvoM (3) Move needle position right
- © Correct fabric and needle position.

- Sew with the folded edge against the foot guide.
- distance between the guide and needle. * 0.6 on the computer display screen indicates the
- fabric and form a chain on the fabric edge. extension. While sewing, the stitch will fall off the * TIP: Fold the fabric with only a 0.2 cm (1/8")



Buttonhole Applique

Use fine cotton embroidery thread (50 weight or finer) and needle appropriate to fabric. You may need to set the foot pressure dial to 2.

In this type of applique, raw edges are folded under.

To prepare the raw edge, first cut the applique design out of paper.

Press a fusible webbing to the wrong side of the

fabric, then cut the fabric slightly larger than the

Fold the fabric under to match paper pattern size and press only the edge to form a perfectly shaped

Press the applique in place and sew. Straight stitch edge is sewn next to the folded edge of the applique.

① | Buttonhole applique stitch © F: Satin stitch foot

⑤ Foot pressure dial (2)

* Use stitch = to achieve a variation.

Patchwork

Sew a straight stitch seam and press seam allowance open. Sew patchwork stitch on right side of garment centering it over the seam line.

Se Patchwork stitch
 F: Satin stitch foot

Fagoting (Bridging)

Fagoting is a technique seen in heirloom sewing. Two folded edges are joined together by threads over an open area.

® Setchwork stitch or 33, 134 Patchwork stitch foot Satin stitch foot

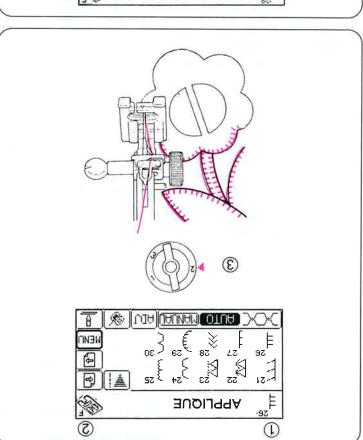
Fagoting plate (optional accessory)

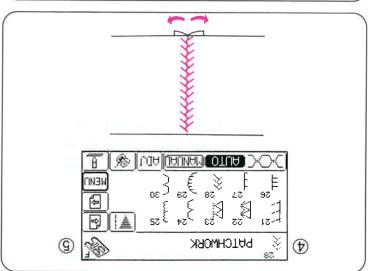
Tagoring place (optional accessory)

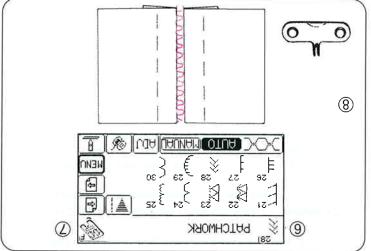
Remove the bobbin cover plate and attach the fagoting plate.

Fold and press under seam allowance to wrong side of fabric.

Place folded fabric right side up on both sides of fagoting plate. Sew slowly, guiding the fabrics against the fagoting plate. Adjust stitch width so needle catches folded edges.







Scallop Stitch

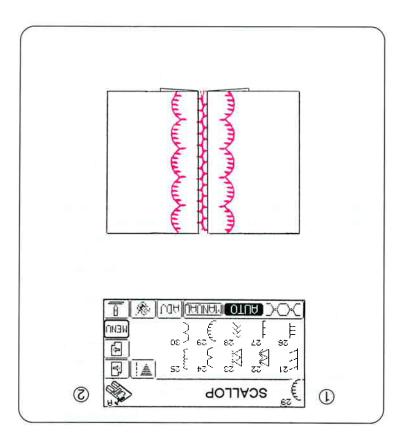
the fagoting stitch. See page 51. enhancing the beauty of the fagoting technique. Sew The scallop is a decorative stitch that is wonderful for

© Scallop or (a), or (a)

Instead of A: Metal foot

fagoting as a guide. foot. Sew, using the edge of the foot against the Position the fagoting stitch off to the left side of the

same method. Turn the fabric around and sew the other side using



Shell Stitch

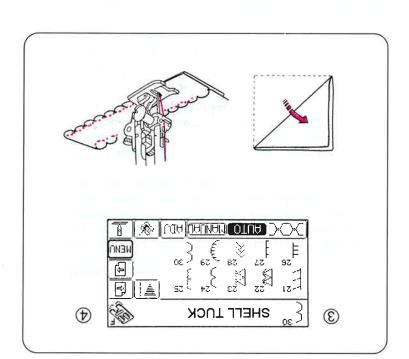
of the fabric when it swings off the fabric to the right. slightly. Allow the needle to just clear the folded edge desire. You may need to tighten the top thread on the bias. Set the stitch width and length as you Use a lightweight fabric such as tricot. Fold and stitch

least 1.5 cm (5/8") apart. If you sew rows of shell stitches, space the rows at

soft silky wovens. You can sew shell stitches in any direction on knits or

- Shell stitch
- E: Satin stitch foot

complete. Reset thread tension to "Auto" after sewing is



Smocking

Smocking is a delicate, decorative treatment on children's clothes or women's blouses. Choose a soft, lightweight fabric such as batiste, gingham or challis. Cut the fabric three times the finished width.

Press the E key twice. You will use straight stitch and set stitch length at 4.5.

Sew rows of straight stitches approximately 1 cm (3/8") apart, across the area to be smocked. (A looser needle thread tension will make gathering easier.) Tie the threads along one edge. Pull the bobbin threads and distribute the gathers evenly. Secure the threads at the other end.

Press the 🗐 key three times.

Select smocking stitch $\overset{32}{\otimes}$.

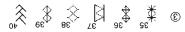
Reduce the tension and pressure if necessary and sew smocking stitch between the straight seams. Pull out the gathering stitches.

- \odot Gathering lines 1 cm (3/8") spart \odot Smocking stitch, remove gathering
- * Stitches $\stackrel{\text{se}}{\stackrel{\text{se}}{\longrightarrow}}$, $\stackrel{\text{se}}{\stackrel{\text{re}}{\longrightarrow}}$ or $\stackrel{\text{lse}}{\stackrel{\text{lse}}{\longrightarrow}}$ may also be used.

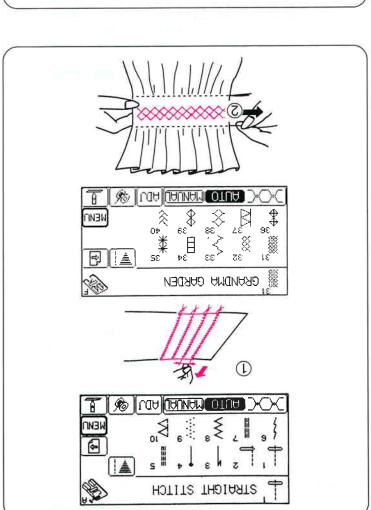


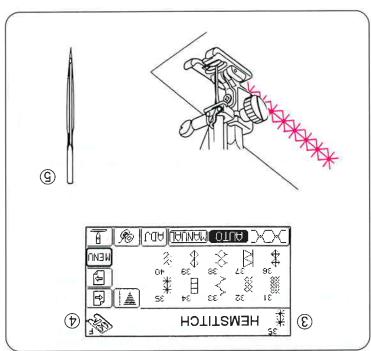
Hemstitching, also known as French hand sewing, was traditionally only a hand sewn art. There are several stitches to choose from that will add an "old world charm". Best results require the use of linen, cotton or a blend of linen/cotton.

Thread machine, needle and bobbin with a fine cotton embroidery thread (50 weight or finer). Insert a universal needle size #110 or a wing needle. Use spray starch to stabilize fabric.



- ⊕ F: Satin stitch foot
- əlbəən gniW @
- Draw design lines with a washable fabric marker. Sew slowly over design lines.
- * Adjust fine tuning until needle precisely penetrates each repeat hole. See page 5.





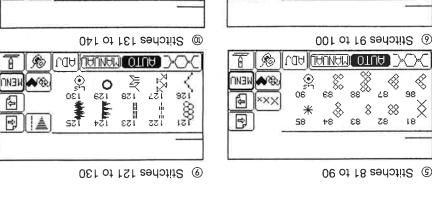
SECTION IV

02 of 14 senotite (1)

Decorative Mode X: 3 ***

Press the MENU key to access the mode selection keys.

key to change the computer display screen between the 11 different displays. Press the Rey. Press the 📳 next page key or 🗐 previous page



EMBRO I DERY

DITAMOTUR

SEMING

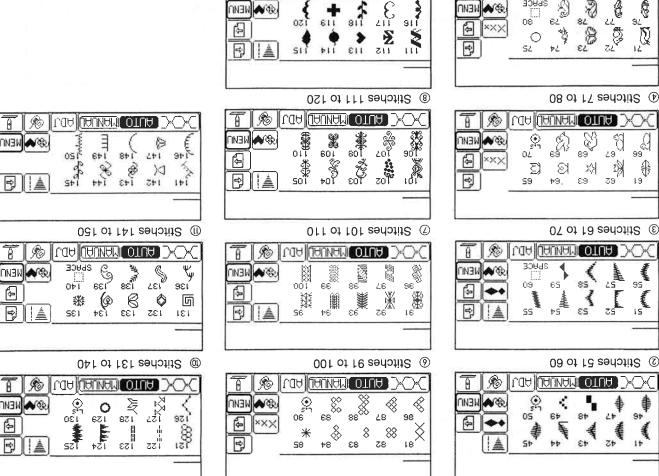
ORDINGE

MENU

-0ts \

WODE SELECTION KEYS

XX 不



UTH URUNAM OTLA

Select the stitch by touching the display key.

How to Select a Stitch

90

suggested foot in the upper right corner. The stitch will appear in the upper left corner and a

Po

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& WENL

LOA JAUNAM OTUA

TOTA CAUNAMI OTLA

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LOA JAUNAM OTUA

WWW DECORATIVE

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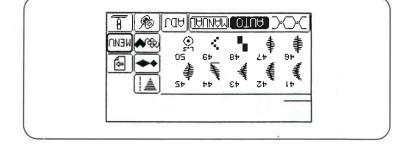
05

Sħ

Function Keys

F | Stitch Width and Length Key

adjust stitch width or length. selecting the stitch. Press the Width and length are automatically set after



◆◆ Elongation Key

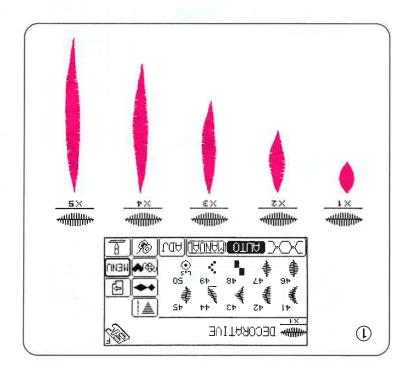
size is indicated under the stitch. varying. Press the 🗪 key and the elongated their regular size without the stitch length stitch 50) may be lengthened up to five times Satin stitches 41 through 59 (exclude locking

maximum stitch options. Change the stitch width or length for

Pecorative stitch

ngisəb niupnəq 📆 ©

XXX Size Key



size is indicated under the stitch. reduced in size. Press the [Xxx] key and the locking stitch 70 and space stitch 80) may be Decorative stitches 61 through 89 (exclude

LOTA JAUNAMI OTUA 🥰 SINGLE РАТТЕВИ STITCH 🥙 \bigcirc

TTA (UAUNAM) OTUA

Sombination Key

stitches.) (Maximum combined capacity is 50 form beautiful borders and designs. Decorative stitches may be combined to

display screen. appear at the bottom of the computer Press the 🖎 key and these new keys will

M KM + W C S M B B B

Clear Key

be cleared (like a backspace). stitches and the last memorized stitch will Press the C key while memorizing

memorized stitches is cleared. sewing and the entire sequence of Press the C key during memorized

$\overline{\mathfrak{z}M}$ Memory Check Key

appear in the screen. and the entire memorized sequence will for programming errors. Press the [?M] key memorized stitches, it is advisable to check Before sewing a long sequence of

∦ ├── Beginning Key

complete, it is possible to sew from the and stop sewing before the sequence is If you start sewing the memorized stitches

display screen options. Press (3) key again to show original

in "mirror image".

Turn-over Memory Key

memorized stitch.

Memory Key

⇒M| Store Key

with the power switched off. will be stored for approximately 3 weeks store the memorized stitches. The stitches combination stitches. Press the ➡M key to The machine has separate memories for

computer display screen will show the stitch

stitch will be memorized after the previously pressed after selecting another stitch, that

times as the key is pressed. When the key is

and the stitch will be memorized as many

Press the $\left[\underline{M} \right]$ key after selecting a stitch

to memorize and invert the stitch. The Press the LOM key after selecting a stitch

stitches. Press the ←M key to activate stored ⇔∭ Recall Key

How to Program Decorative Stitches

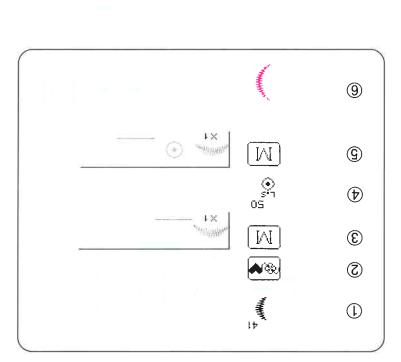
Single Motifs

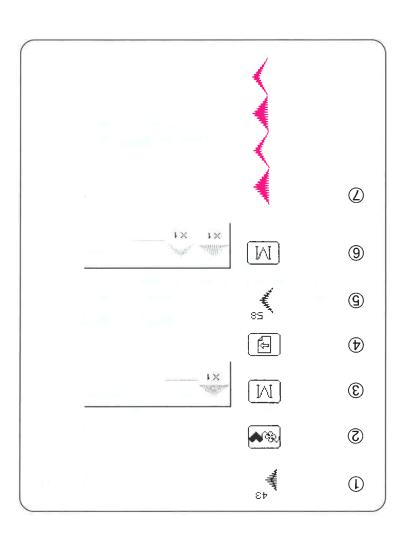
- . Select stitch €
- ® Press M key to memorize stitch (An autolock stitch is pre-programmed at the beginning of the stitch.) The cursor should be blinking after the stitch.)
- Select stitch
- $\begin{picture}(20,0) \put(0,0){\line(0,0){100}} \put(0,0){\line(0,0){100$
- ® Place fabric and stabilizer under foot and press foot control. Machine will auto-lock, sew motif, auto-lock and stop.
- Single motifs may be sewn without being memorized. Begin sewing the motif and press the auto-lock key. The machine will complete the motif, auto-lock and stop.

Combining Motifs

- . ≸ dotits toele2 ①

- ® Select stitch \$8
- $\ensuremath{\mathbb{R}}$ Press $\ensuremath{\overline{\mathbf{M}}}$ key to memorize stitch $\ensuremath{\stackrel{\mathsf{56}}{\blacktriangleright}}$.
- Place fabric and stabilizer under foot and press foot control to sew memorized motifs repeatedly.
- * Press the auto-lock key while sewing the last desired motif within the combined sequence. The machine will complete the motif, auto-lock and stop.

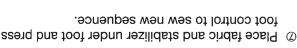


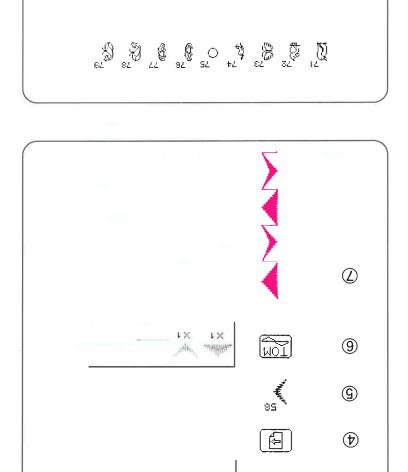


Combining Motifs with Turn-over (Mirror Image)

- . ≸ Hotits toeleS ①
- Press key.

- © Select stitch
- Press Month Rey to turn-over/memorize stitch .
 Place fabric and stabilizer under foot and press





(5)

1

Memory Lock Stitches

Stitches 71 through 79 are pre-programmed to autolock, sew the stitch, auto-lock and stop. There is no need to memorize the stitch or to press the auto-lock key.

Select stitch

Place fabric and stabilizer under foot and press foot control to sew single crocodile.

* Sew more than one crocodile by memorizing them.

Press the XXx key to vary the crocodile size.

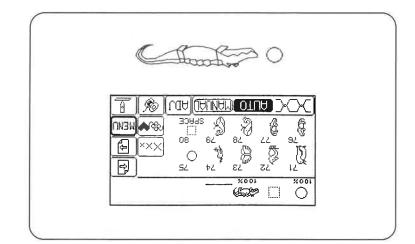
Adding Space Between Memorized Stitches

may overlap or need more space between them. When sewing two different stitches together, they

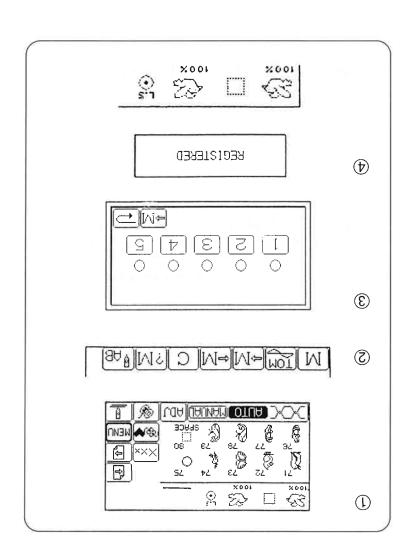
Memorize stitches or senorize ⊕ Memorize stitches or senorize stitches

Sew sample.

stitching. allow you to lift up the thread and cut it close to the * Cut connecting threads with curved scissors which



- the location to store the stitches; press $\rightleftharpoons M$ key. The display screen will change. Press 1 } key for
- seconds. The memorized/stored stitches will Registered" will appear in the screen for two
- deleted. occupied location, the old combination will be If you store a new combination in an already



Recalling Stored Stitches To recall stitches (\$\begin{cases} \ext{constant} \ext{solution} \ext

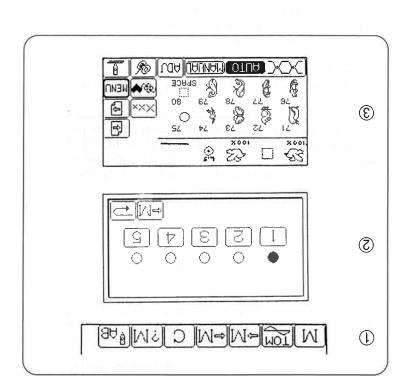
- ① Press ←M key.
- The display screen will change.

Press 1 key.

Press (⇔M key.

(The "•" indicates that the sequence is stored.)

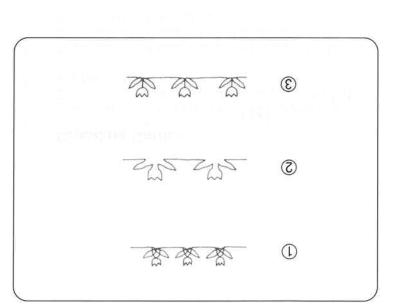
The computer display screen will display the stored sequence after two seconds.



Fine Tuning Adjustment

If the designs are uneven and distorted, adjust them with the tine tuning dial. See page 5.

- ① When design is overlapped, turn the fine tuning dial towards the"+" sign.
- When design is drawn out, turn the fine tuning dial towards the"—" sign.
- Fine tuning correct



Triple Cording

Sew over three strands of cording to create unique border trims. Pearl cotton, knitting yarn, embroidery floss, lace thread, fine wool or lily yarn may be used as cording.

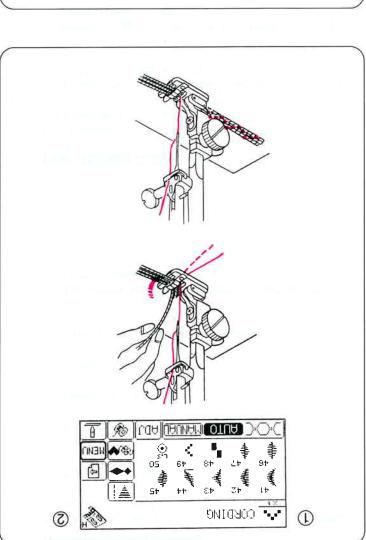
- 1) Cording stitch
- © H: Multi-cord foot

Mark the design on the right side of the fabric.

Slide the sewing threads to the left and insert three strands of cording into the slots of foot H with 10 cm (4") extending behind the foot. (The slots on foot H will hold the lengths of cording in place while the stitches form over the cording.)

Stitch slowly and smoothly turning the fabric as you sew while guiding the cording over the design line.

Sew a single strand of cord using stitch $\frac{2}{3}$. Change the width to 3.0. Insert the single strand of cording in the center groove of foot H.



Grandma Garden

Select stitch $\overset{\text{R4}}{\diamondsuit}$ and press the $\overset{\text{R4}}{M}$ key three times. Select stitch $\overset{\text{R4}}{\diamondsuit}$ (locking stitch) and press the $\overset{\text{R4}}{M}$ key once.

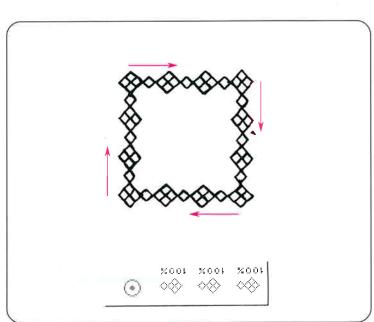
Place fabric and stabilizer under presser foot. Lower the needle at the starting point and sew until the machine stops automatically.

Lower the needle at the end point and turn the fabric 90 degrees.

Sew the second row until the machine stops automatically.

Complete the square pattern, repeating the same procedure.

* Stitches $\overset{86}{\diamondsuit}$ or $\overset{87}{\diamondsuit}$ may also be used.



Sculpture Stitch (Quilt Stitch)

The sculpture stitch adds a three dimensional effect when outlining designs for elegant motifs on clothing, table linens and crafts.

The sculptured look is formed by five back and forth

stitches and one forward stitch.

Select stitch $\frac{122}{10}$. Set foot pressure dial to 2.

Trace your design on the right side of the fabric. Place a stabilizer underneath for extra support on lightweight fabrics.

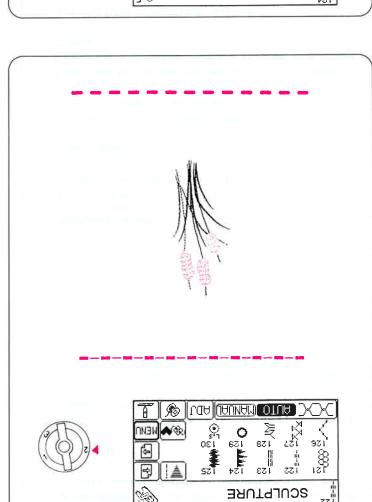
Stitch slowly by guiding foot F over the traced line, pivoting at corners.

Secure the threads with the locking stitch.

* You may want to reduce the pressure when sewing curves.

Quilt Stitch

You can easily duplicate hand quilted stitches by using monofilament thread in the needle, 60 weight cotton thread on the bobbin and changing needle tension to 7.8. See page 21.



Shading Stitches

Shading stitches may be used for quick and neat outline designs. Use them to enhance appliques and create your own machine embroidered motifs.

Select stitch

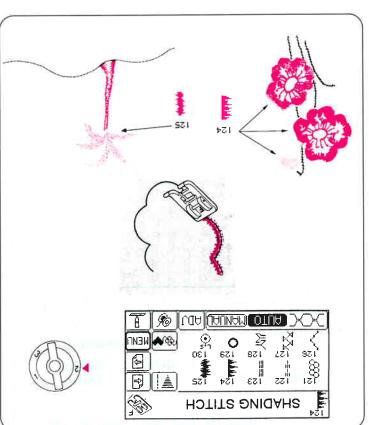
Set foot pressure dial to 2.

Draw the design on the right side of the fabric. Place a stabilizer or iron-on interfacing beneath the fabric for support where necessary.

Use the automatic setting or manually adjust the stitch length and width to achieve the desired effect. Reduce the pressure to facilitate sewing curved areas. You may need to pivot on sharp curves.

A second row in the same or varied thread color can be sewn inside the first row for a more pronounced outline.

Reset foot pressure dial to 3 after shading stitches are sewn.



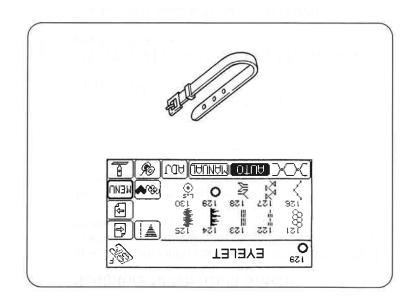
Eyelets

Small eyelets may be sewn on belts, used for lacing cords or simply used for a decorative effect.

Select stitch O

Press the foot control and the machine will sew an eyelet and stop automatically.

Cut open the eyelet with a seam ripper, pointed scissors or an awl.



Scallop Hem

A scallop hem is a beautiful method of finishing pocket edges, sleeves, table linens, etc.

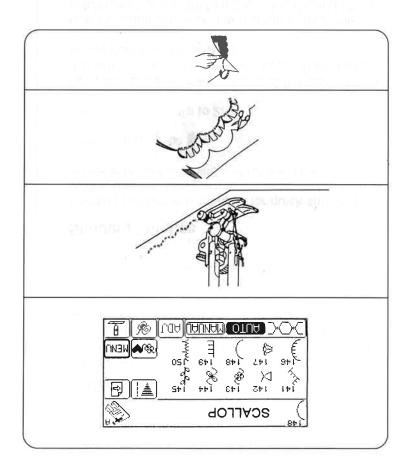
Select stitch).

Fold hem with right sides together. Sew scallops 1 cm (3/8") from folded edge.

Trim close to stitching leaving 0.3 cm (1/8") seam allowance. Clip seams as shown or trim with pinking shears.

Turn the hem to right side and press.

Seam Variations	Stitch Length	Stitch Width
	Automatic Setting	
	2.5	0.3
	0.1	0.7



Drawn Work and Fringing

Drawn work and fringing add a special fouch on table linens and shawls. Choose a firm, woven fabric like linen where threads can be removed easily.

Select stitch

Set foot pressure dial to 2.

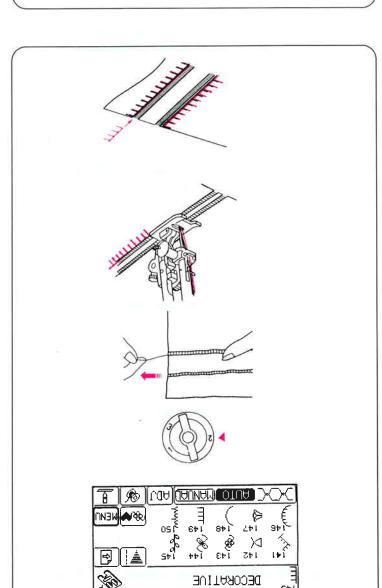
Drawn Work

Carefully cut the fabric on grain. Determine the width of the drawn work and remove one yarn or fabric thread at each end.

Sew down the right side, guiding the fabric so the left hand stitches fall in the open space.

After finishing the left side, turn the fabric around 180 degrees. Then sew down the other side.

Remove the yarns or fabric threads between the stitching.



• Fringing

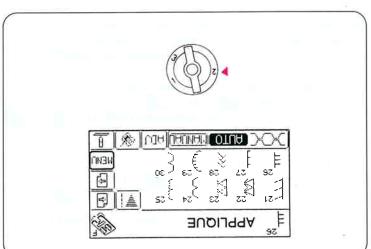
Select stitch =

Set foot pressure dial to 2.

Fringing uses the same method as drawn work. Carefully cut the fabric on grain. Remove a single yarn or thread where the fringing is to begin. Sew down the left side so the right hand stitches fall in the open space. Remove all excess yarn to create fringe.

* Reset foot pressure dial to 3 after sewing.

Stitches or jmay also be used.



SECTION V

Built In Letters and Numbers Mode

keys.

Press the MENU key to access the mode selection

Press the $A \otimes \mathbb{A} \otimes \mathbb{A}$ key.

- ① Letters and Numbers Block Style
- Seript Style
- Diacritical LettersBlock Style
- Discritical LettersScript Style

Function Keys

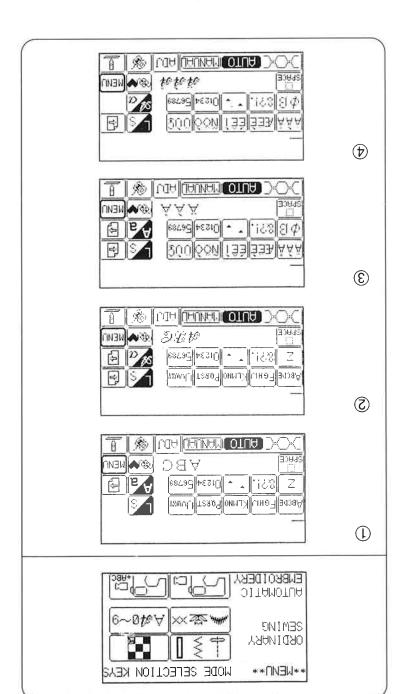
Letter Size Key
Press the Sakey to change letter and number size from standard to approximately 2/3 size.

Upper/Lowercase key

Press the Aa key or Aa key to alternate between uppercase and lowercase letters.

Combination Key

Letters and numbers may be combined using same method as decorative stitches. See page



BA

Programming Letters and Numbers

Example: Block Style "ELNA"

- 1. Press the $\frac{\text{Arcor}}{\text{Left}}$ key until "E" is displayed in the screen upper left corner.
- 3. Press M key to memorize the "E". The cursor moves to next position after "E" is memorized.
- 4. Press Kumo key until "L" is displayed.
- 5. Press M key.
- 6. Press Kumo key until "N" is displayed.
- 7. Press | M | key.
- 8. Press ABODE Key until "A" is displayed.
- Press | M | key.
- If you accidentally memorize the wrong character, bress the C key.

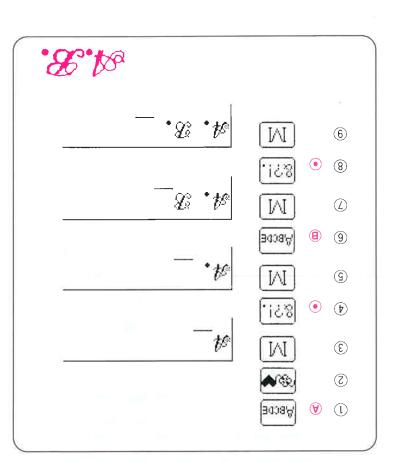
Sew "ELNA". Cut connecting threads.



Example: Script Style "4.8."

- 1. Press About key until "A" is displayed in the screen upper left corner.
- 2. Press 🐯 key.
- 3. Press \boxed{M} key to memorize the "A". The cursor moves to next position after "A" is memorized.
- 4. Press &?!.] key until "•" is displayed.
- 5. Press M key.
- 6. Press ABODE Key until "8" is displayed.
- 7. Press M key.
- 8. Press &?!.] key until "•" is displayed.
- 9. Press M key.

.".\$.₹" w9S



Example: Block Style/Lowercase "très"

- 5. Press Posst key until "r" is displayed.
- 6. Press M | кеу.
- key twice. 7. Press 🗗
- 8. Press |ÆËĖ key until "è" is displayed.
- | ➡ | ssənq .0 t key twice.
- TRASS PORST

Press | M | key to memorize "o".

Press | M | key to memorize "h".

Press M key to memorize "W".

Press Fehul Key until "H" is displayed.

Press | Www | Key until "W" is displayed in the

Example: Block Style, Upper/Lowercase "Who"

key until "o" is displayed.

Press Aal key to change display for lowercase.

- key until "s" is displayed.
- 12. Press M

keλ.

Sew "très".

"odW" wa?

Press Kum

Press 🗞 key.

screen upper left corner.

.8

.9

.6

٦.

.ε

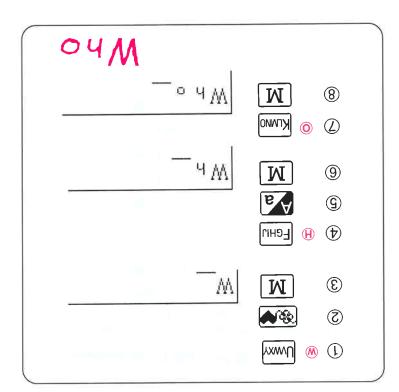
2.

٦,

zént

- 9. Press | M | κeλ·

- - key to memorize "t", 4. Press | M
 - Press (♣) Key.
- 2. Press (**) key to change display for lower case.
- - screen upper left corner. 1. Press Ponsi key until "T" is displayed in the



très

frè

T

M

теярЧ

M

|3337/

(

M

TSAD9

M

♦

BA

ТаярЧ

(7) (1)

01)

6

8

9

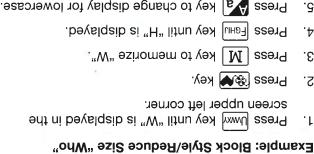
(G)

(

3

(2)

1



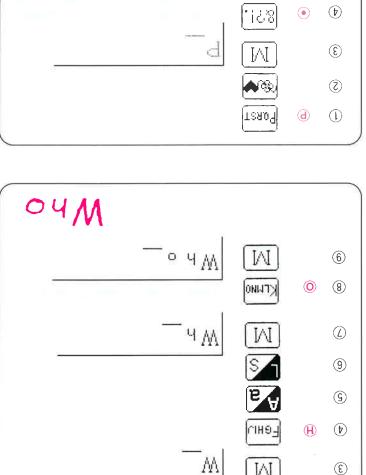
Press As | key to change display for lowercase. ٦.

Press | M | key to memorize "h". .9

Press Kumo key until "o" is displayed. .8

Press | M | key to memorize "o".

gew "Myo".

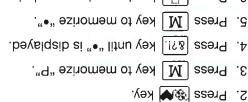


(2)

1

M

ለጸመለነብ



1. Press Paral key until "P" is displayed in the

screen upper left corner.

Example: Letters and Space "P. S."

5. Press | M | key to memorize "•".

6. Press [space] key to create space between letters.

The amount of space may be adjusted:

(mm & Press 3 times (mm 1/2) Press 2 times (ww s) Press 1 time

(mm 2) Press 4 times

7. Press | M | key to memorize "

8. Press PORST Key until "S" is displayed.

| M | key to memorize "S". 9. Press

10. Press |&?!.| key until "•" is displayed.

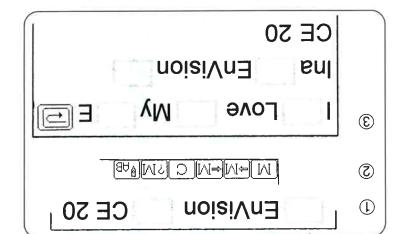
11. Press M key to memorize "•".

Sew P. S.

 \mathbb{M} (1) 851 • \mathbb{M} ТаярЧ S 8 M9 d M9

How to Check Memorized Stitches

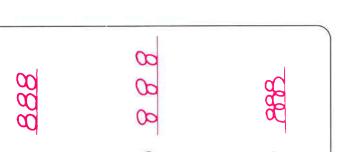
- Memorize the words "I Love My Elna EnVision
- \odot Press [?M] key. (All memorized words will appear.)
- ③ Press ← key.



Fine Tuning Adjustment

If letters or numbers are uneven and distorted, adjust them with the fine tuning dial. See page 5.

- $\ensuremath{\mathbb{O}}$ When letters or numbers overlap, turn fine tuning dial towards the "+" sign.
- When letters or numbers are drawn out, turn the fine tuning dial towards the "-" sign.
- ⑤ Fine tuning correct.



Programming Notes

1. Prior to programming, delete the previously programmed stitches by pressing the clear key. For a long program, it is advisable to write down the programming procedure in order to avoid an error.

(3)

- 2. Up to 50 stitches or letters/numbers can be programmed in the various memories. Note, however, that the straight, buttonhole and other utility stitches cannot be memorized.
- If you find that a wrong stitch is selected and memorized in the middle of programming, press the clear key. That stitch alone will be cleared.
- 4. After sewing a lowercase "&" or "." (period), insert a space for best results.
- 5. If a program has not been stored, it will be erased...
- when the power switch is turned off,
- if you have been sewing a programmed stitch, stop the machine and then press any stitch key or menu key.
- If an incorrect operation is performed in programming, an electronic alarm will sound to signal an error.

SECTION VI

Patchwork/Quilting Mode

Stitches frequently used for patchwork/quilting have

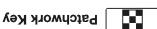
perform special time-saving functions. machine has also been programmed to automatically been grouped together for your convenience. The

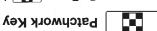
Quilting key (see page 71) Patchwork key (see below) keys. Press the 🔼 key to access the patchwork quilting keys. Press the MENU key to access the mode selection

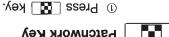
Freehand quilting key (see page 71)

Pattern calculation key (see page 72)

PATTERN CALCULATION



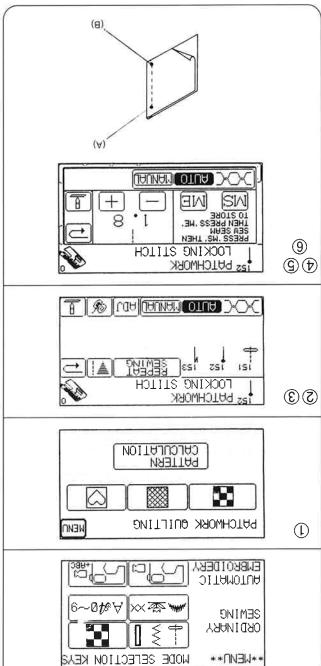




- Select stitch , ; holy select stitch .
- is required while piecing fabric.) beneficial when the same length of stitches SEWING Key. (This key is
- Press the memory start |MS| key.
- press the reverse key at (B). B Start sewing at (A) (see illustration) and
- machine stops automatically.
- To memorize a new length seam, press
- memorized seam length will be erased. |MS again and start sewing. The previously
- return to the patchwork quilting keys.

WEVN WODE SELECTION KEYS Velveteen Velveteen looW 100W Sheeting Sheeting Sheeting Satin Satin Broadcloth Broadcloth Broadcloth **Fabric** ε ε Pressure Thread 06# 01 09# 06# 여 09# 09# **Bobbin** Thread Transparent **Transparent** 09# Needle LL# 11# 11# Needle Quilting **Patchwork** Quilting Freehand Patchwork, Quilting and Freehand Quilting

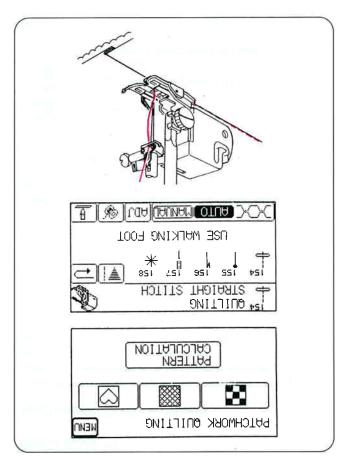
Recommended Fabric, Needle, Thread and Pressure for

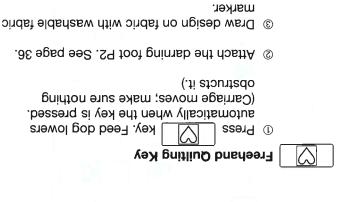


the patchwork quilting keys.

.wa2 D

Attach the walking foot. See page 32.



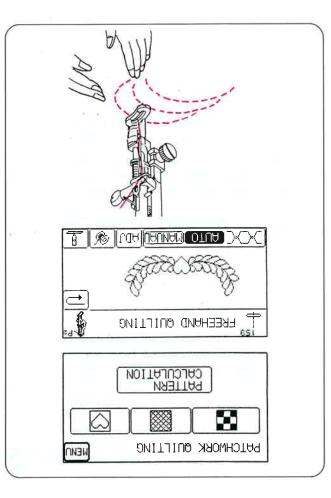


the patchwork quilting keys.

Tie together beginning and ending threads.

© Guide the fabric by hand and begin sewing.

 Lower presser foot, press up/down needle key to bring bobbin thread to fabric top.



PATTERN CALCULATION

Pattern Calculation Key

different designs.) can be calculated automatically. (There are six The size and number of each piece of fabric

- PATTERN CALCULATION кеу. ① Press
- petween screens. key to alternate

How to Calculate Fabric

Indication Example: NINE PATCH Key/Centimeter

Set the size of work by pressing the

- Press | PATCH | key.
- Grandma Garden 8 cm to 100 cm Nine Patch...... 5 cm to 100 cm Mosaic, Lemon Star, or | + | key.

Log Cabin.....1 cm to 100 cm

- ③ Press the ROWS key and select the Baby Blocks 9 cm to 100 cm
- + | кеу. number of rows by pressing the | -- | or
- Press the | 0K | key.
- are indicated. included) and required number of pieces © The size (seam allowance of 0.7 cm
- indicated. * The recommended colors are also
- ⑥ Press the |←| key after confirming.

Example: | NINE | VINCH | Inch indication

indication between centimeters and inches. See page 27 on how to change measurement

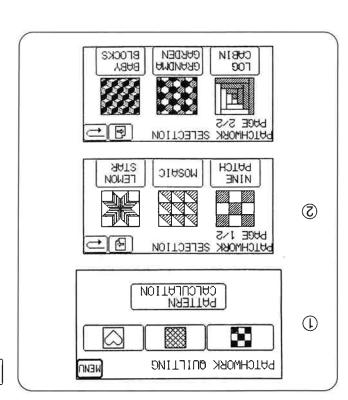
Use same method as centimeter indication.

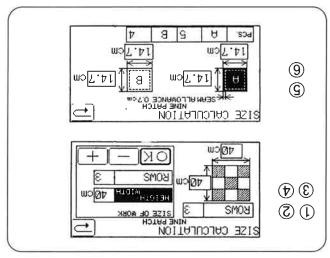
Patchwork Conversion Chart

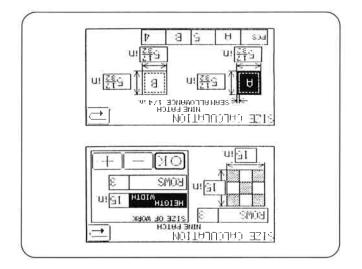
the screen, use the fraction indicated: When the following size calculation appears on

"8/7 əzu "SE/92-"SE/32" 22/32"- 25/32" use 3/4" 6/32"- 9/32" use 1/4" 1/32"- 5/32" use 1/8" 18/32"-21/32" use 5/8"

30/32"- 32/32" use 1" 14/32"-17/32" use 1/2" 10/32"-13/32" use 3/8"



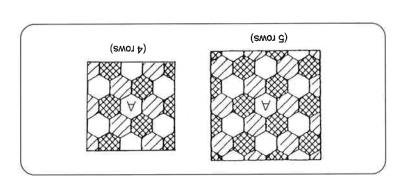




How to Count Rows

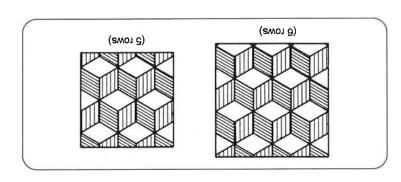
Example: Grandma Garden

Count from left to right, centering: (A).



Example: Baby Blocks

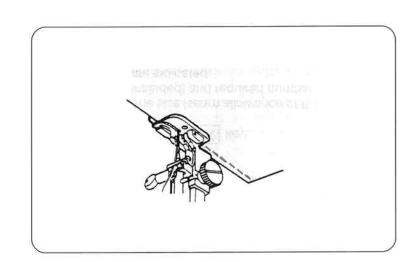
Count from left to right, centering one block: 📦



How to Use Patchwork Foot O

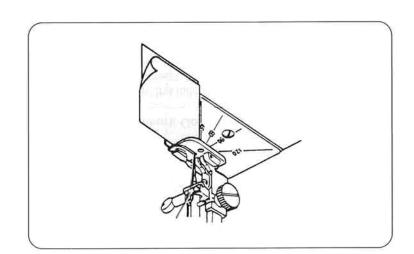
foot. Sew, guiding the edge of fabric along the guide of

guiding the edge of fabric along the guide. * A seam allowance of 0.7 cm (1/4") is created by



Angle Scale on Needle Plate

beginning. of fabric to the angle scale on the needle plate at the You can sew without marking by matching the edge



Stabilizing Fabric

Stabilizers for embroidery work are available in two types: press-on or sew-in.

Use stabilizer on fabric wrong side. (More than one layer may be required.)

The sew-in type should be used when embroidering fabric which cannot be ironed or sections which are

fabric which cannot be ironed or sections which are difficult to iron.

For both types of stabilizers, prepare a piece larger than the embroidery hoop and place it in the hoop so the entire piece can be fastened within the hoop. (Fabric should be taut.)

NOTE: Ironing temperature varies with the kind of stabilizer and fabric.

Choosing Stabilizers:

For beautiful embroidery, it is important to use stabilizers properly.

Press-on: For stretch fabric such as knits, lightweight and shrinkable fabric.

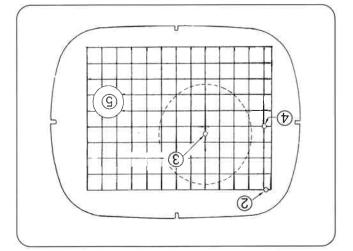
Sew-in: For sturdy fabrics and fabrics which cannot

Sew-III. For stardy rabiles and rabiles which earling be ironed.

• Template

The Illustration shows various starting points.

- © Starting point for EnVision Card Nbrs. 2, 3, etc.
- © Starting point for EnVision Card Series 100
- @ Starting point for monogramming
- ⑤ Remove Template hole



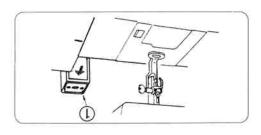
SECTION VII

Getting Ready to Monogram and Embroider

Before furning on your machine, clear your table surface of anything that might obstruct the carriage movement. If your machine is in a cabinet, check that the machine is even or above the cabinet aurface. (The carriage could possibly hit the cabinet and disturb the sewing result.)

When monogram or embroidery is completed, before turning off your machine, press the MENU key to return carriage to its non-active position.

Do not turn the flywheel by hand while carriage is moving.



① Carriage

embroidery mode. Use the start/stop key.

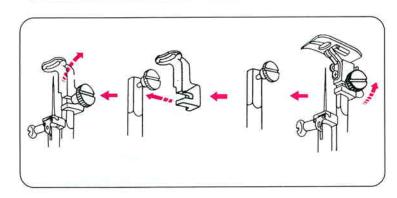
NOTE: The foot control cannot be used in

Selecting Needle and Thread

SIZE NEEDLE	NEEDLE OF TYPE	TYPE OF THREAD	WEIGHT OF PABRIC
(37) 11	Universal Ball Point Stretch Needle	Size 40 or 50 Cotton machine embroidery thread, Rayon thread	Light, muibəM
(06) †1	Universal	Size 30 or 40 Cotton machine embroidery thread, Rayon thread	Неаvy

Attach the "P" embroidery foot

Raise the presser foot. Loosen screw and remove shank. Position "P" foot and tighten screw.



Machine Threading

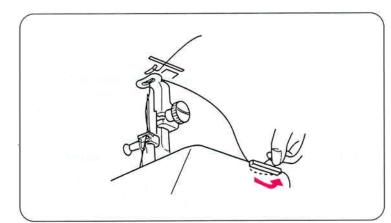
Thread the machine as described for ordinary sewing. (See pages 16-19.) The needle thread is passed through the P foot hole and up to the front of the thread cutter, which acts as the thread holder. Leave 2 to 3 cm (1") thread tail dangling.

Extension Table

Attach the extension table. See page 5.

Foot Pressure Dial

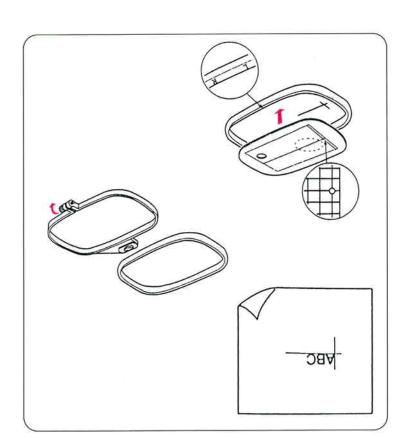
Set foot pressure dial to 2. See page 6.



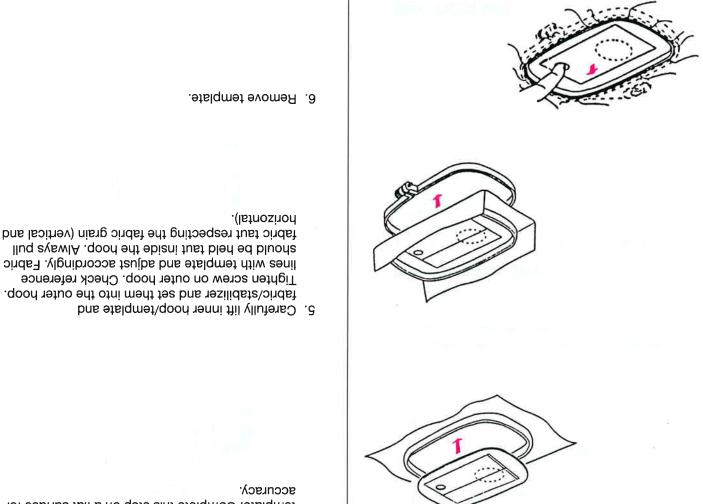
Securing Fabric in Embroidery Hoop

- 1. Use a washable fabric marker to mark reference lines for embroidery position.
- $\ensuremath{\mathsf{Z}}.$ Loosen the screw on the outer hoop and remove inner hoop.
- 3. Set the template inside the inner hoop.

 ${\it NOTE}$: The L and R markings on the hoop should be visible and at the bottom when setting in the template.



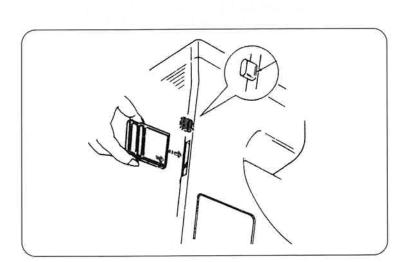
4. Place the inner hoop/template on top of fabric and stabilizer. Match the fabric reference lines with the template. Complete this step on a flat surface for accuracy.



7. The hoop turnkey should be parallel to the hoop. Position hoop on machine and place the prong into the carriage. Lock the hoop into position by moving the turnkey clockwise.

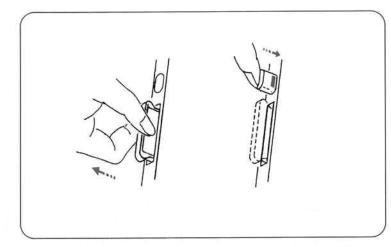
Insert EnVision Card

- Turn off the machine. Insert the card making sure the arrow on the label is facing you.
- Push the card straight in until it clicks and the eject button pops out. (See illustration.)
- If the EnVision card is incorrectly inserted or not pushed in far enough, the eject button will not stick out.
- ⑤ Turn on the machine. The menu screen appears for a few seconds. The display changes and the machine is set for straight stitch.



Eject EnVision Card

Turn off the machine. Press the card eject button. The EnVision Card comes out halfway and may be safely removed.



SECTION VIII

Normal Embroidery Mode

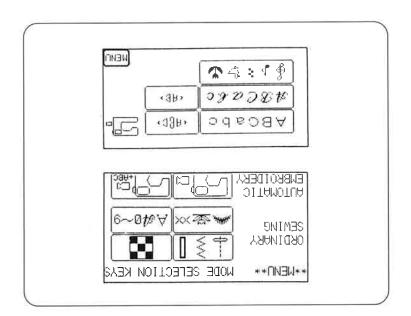
tot brasion Card 101

Turn off machine and insert EnVision Card 101.

Turn on machine.

Press the Land key. The carriage will move and the feed dog will be lowered automatically.

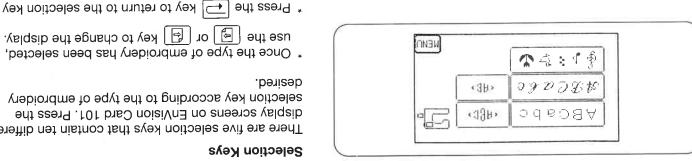
Letter styles and border designs programmed on card 101 will appear.



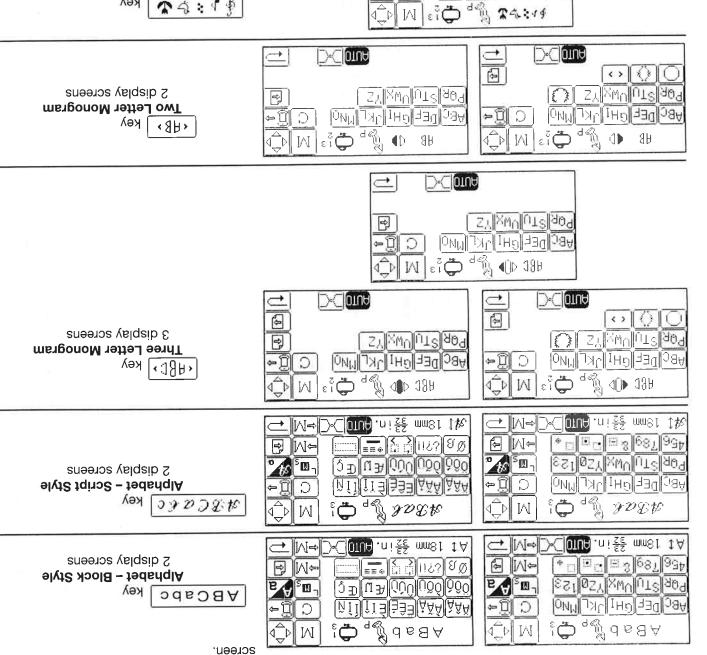
|XX||~,||TA||\[\bar{\pi}||

M

M⇔



1 display screen **Border Designs** P : P ↑ Keλ



use the 🗐 or 📋 key to change the display. * Once the type of embroidery has been selected,

selection key according to the type of embroidery display screens on EnVision Card 101. Press the

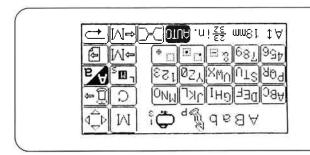
There are five selection keys that contain ten different

How to Select a Design

Press the ABCabc key.

- * The 🖔p means that embroidery foot P should be
- (Embroidery hoop No. 3 is optional.) which number embroidery frame may be used. * The number next to the 🗬 3 symbol indicates

Thread Tension Adjustment Key



Function Keys

See page 56. M Memory Key

See page 56. Clear Key

Letter Size Key

numbers. (Letter size affects how many large, medium and small size letters and Press the letter size key to alternate between

SMI

letters/numbers may be combined.)

See page 56. ⇒M Store Key



See page 56. ⇔M Recall Key

Thread Tension Adjustment

the fabric: If the bobbin thread appears on the upper surface of

petween uppercase and lowercase letters. Press the upper/lowercase key to alternate Upper/Lowercase Key

sewing each letter or design section, allowing on. The machine will automatically stop after darken to indicate that color select mode is

Press the color change key and the key will

and frame position key to align the wording. need to sew a second row. Press the sewing When sewing letters/numbers, there may be a

you to switch needle thread color.

Color Change Key

Sewing Position Key

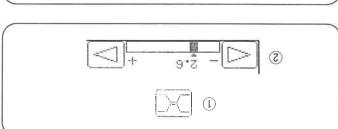
See below

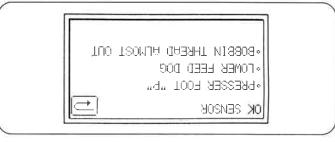
ΦÜ

- Press the thread tension key.
- ② Decrease by pressing the \subseteq \sqrt{\leq} key.

OK Sensor

key and continue sewing. starts, check the items listed, then press the $|igstackrel{ riangle}|$ If the OK sensor appears on the screen after sewing





Programming Letters and Numbers

Example: Block Style "ELNA"

1. Press $\overline{\text{DEF}}$ key until "E" is displayed in the screen upper left corner.

2. Press M key to memorize the "E".

3. Press $\lfloor J \kappa_{\lfloor} \rfloor$ key until "L" is displayed.

4. Press M key.

5. Press M_{M_0} key until "N" is displayed.

e. Press M key.

7. Press AB_{C} key until "A" is displayed.

8. Press M key.

bress the C key.

BCINA
<

3

 \bigcirc

1

 γK^{Γ}

M

DEF

3

9. Lower presser foot. Start by pressing START/stop key. Sew 5 or 6 stitches and stop by pressing start/STOP key.

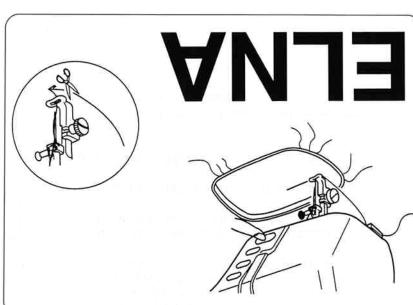
Raise presser foot. Cut needle thread tail close to fabric.

Lower presser foot.

Press start/stop key.

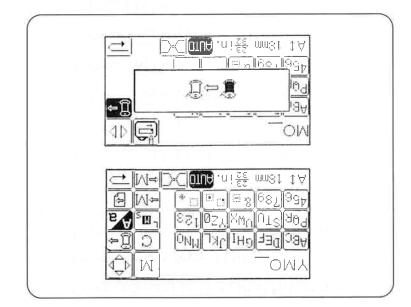
When sewing is started, the word "ELNA" shifts on the computer display screen. When sewing is completed, the original display returns and, at the same time, an electronic sound is emitted to signal completion of sewing.

Cut the connecting threads.



Example: Block Style "YMO"/ 🖺 Color Change

- 1. Program the letters "YMO".
- 2. Press 🗒⇔ key.
- 3. Press START/stop key.
- is sewn so you may change thread color. 4. The machine automatically stops after each letter



Numbers/ | ← Sewing Position Key Example: How to Sew a Second Row of Letters or

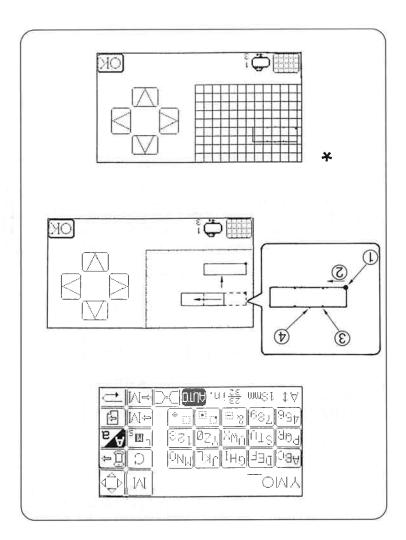
1. Press |4⊕t key.

displayed. The original letter position and range are

- Inioq point (1)
- © Sewing direction
- ③ Range for 1 letter
- Center mark of the 3 memorized letters
- 2. Move the embroidery hoop to the desired starting position by pressing the direction $\Box \Box$

(Press the OK key after setting position.)

- Press the START/stop key to start sewing.
- template or no template. Press grid key to alternate between display,



Press ← key.

12. Sew sample.

11. Press M key.

9. Press | 🔄 | key.

8. Press M key.

6. Press 🔄 key.

5. Press M key.

3. Press M key.

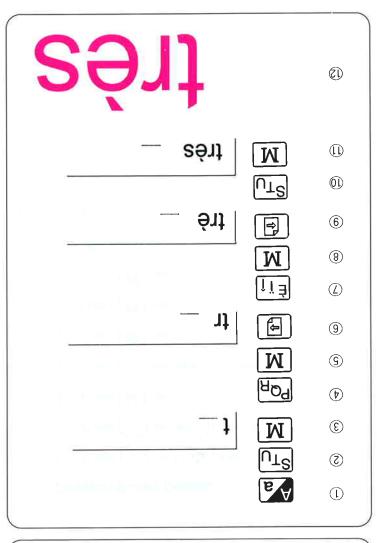
1. Press Aa key.

10. Press STU key for "s" display.

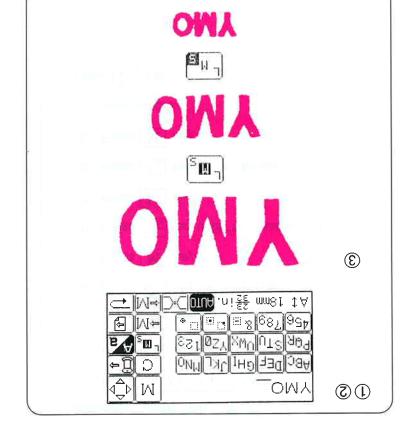
Press | E i i | key for "è" display.

4. Press PQR key until "r" is displayed.

2. Press STU until "t" is displayed.

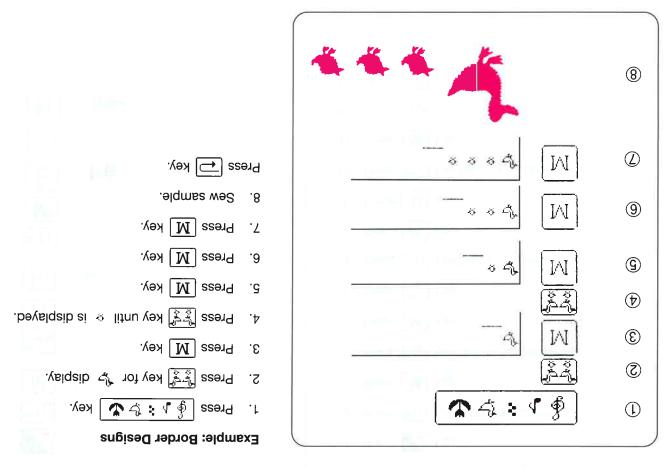


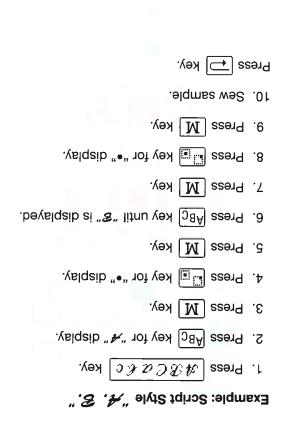
Example: Diacritical/Block Style/Lowercase "très"

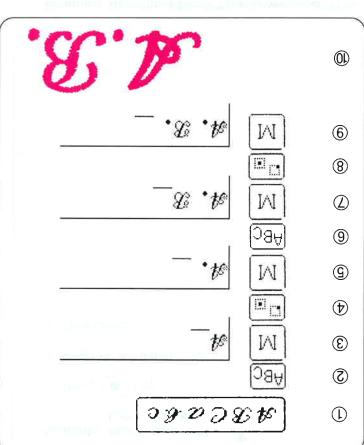


- 3. Sew sample.
- 2. Program the letters "YMO".
 - 1. Press Las Key.

Example: Block Style "YMO"/ LMS







Example: Three Letter Monogram Inside Border

- 1. Press (+Ĥβ[▷ key.
- | key for border.
- 2. Press
- 3. Press M key.
- 4. Press ABC key for "A" display.
- 6. Press 🖶 key. Press M key.
- 7. Press ABC Key until "B" is displayed.
- 8. Press M key.
- 9. Press 🔄 Key.
- 10. Press ABC Key until "C" is displayed.
- 11. Press M key.

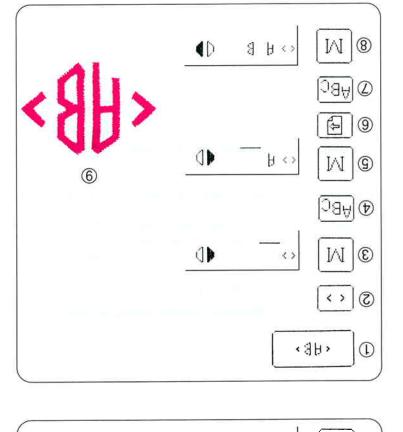
12. Sew sample.

right) will be memorized. The 🌓 mark indicates which letter (left, center,

Press (←) key.

Example: Two Letter Monogram Inside Border

- Press (48) key.
- Press (> | key for border. ٦.
- Press M key. .ε
- Press ABC key for "A" display.
- Press M key.
- Press 🔄 keλ.
- Press ABC key until "B" is displayed.
- Press | M | key.
- Sew sample. .6
- Press | ← | key.
- Press MENU key.
- three letter monograms. Always program borders before letters for two or



40▶ 1 9 ₺ €

8 # ()

B C

10

4()▶

(1)

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(-)

 \mathbb{M}

Ìg⊎∣

Ð

BC

<18H>

(1)

(01)

6

8

9

(G)

(D)

3

 \bigcirc

1

EnVision Card 102

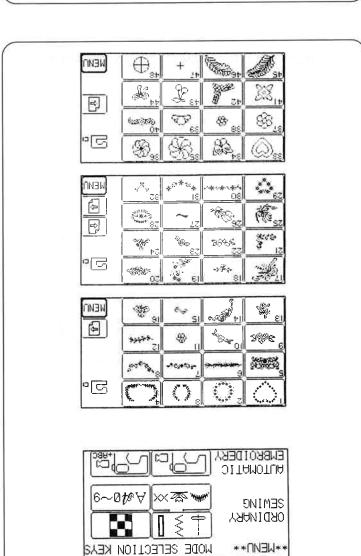
Turn off machine and insert Envision Card 102.

Turn on machine.

Press the Rey.

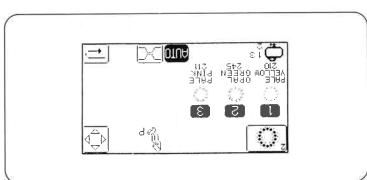
Designs programmed on card 102 will appear.

Alternate between the 3 display screens by pressing the 🗐 or 🖆 key.



How to Select and Sew a Design

- 1. Select design fig. by pressing the screen.
- 2. Display screen will indicate the suggested thread color for each section of the design. Thread machine with color appropriate for first section.
- 3. The Pp means that embroidery foot P should be used.
- 4. $\bigoplus_{i=3}^{13}$ Display indicates appropriate embroidery hoop to use.



fabric in the embroidery hoop. them with those on the template, and set the 5. Mark the fabric with reference lines, matching

Attach the hoop to the carriage.

- ⟨⊕⟩ | key. Use the arrow keys to move the carriage starting point marked on your fabric, press the 6. If the initial needle position is not directly over the
- until they are aligned.

and stop by pressing start/STOP key. 7. Press the START/stop key. Sew 5 or 6 stitches

Cut needle thread tail close to fabric.

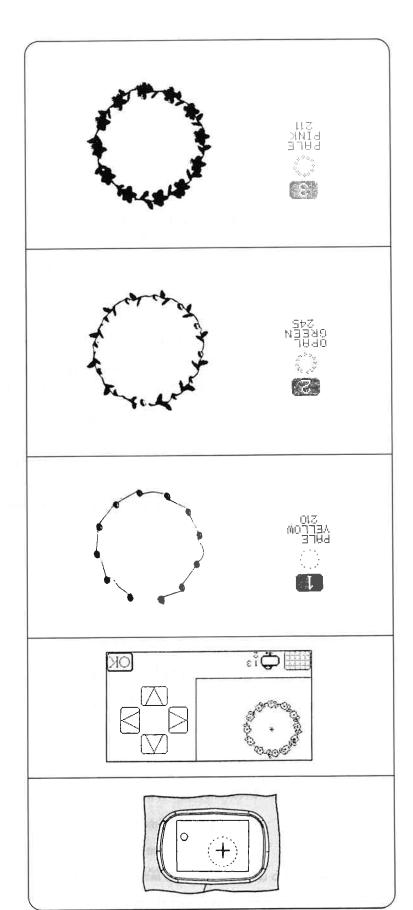
step 1 and automatically stop. Press the START/stop key and machine will sew

Cut thread.

method. 8. Change thread color. Sew step 2 using same

- Change thread color. Sew step 3.
- * Cut all connecting threads.

stitches. Sewing the design twice may result in skipped twice, but instead using a heavier thread weight. compact. Elna does not suggest sewing the design NOTE: Some sewers prefer their embroidery be very



How to Skip on 100 Series EnVision Cards

(You may sew a design section out of sequence.)

Example: Card 102

ا. Select design المنتجبة.

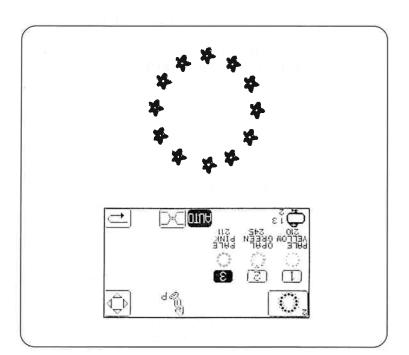
2. You would like to sew only section 3. Press the key indicating section 2. The machine has skipped to section 3.

Sew sample.

Press ← Key.

Press MENU Key.

Turn off machine.



Notes on Programming (in Embroidery Mode)

- 1. Prior to programming, delete the previously programmed letters by pressing the clear key. For a long program, it is advisable to write down the programming procedure in order to avoid an error.
- * An electronic alarm will sound when the memory is full.
- 2. If you accidentally select an incorrect design/letter/number, press the clear key. The incorrect design will be cleared.
- 3. If an incorrect operation is performed in programming, an electronic alarm will sound.
- 4. In the following cases, the entire program is cleared:
- When the power switch is turned off.
- If you have been sewing programmed letters/numbers and then stop the machine, if you then press the clear key, go back key or any design key.

SECTION IX

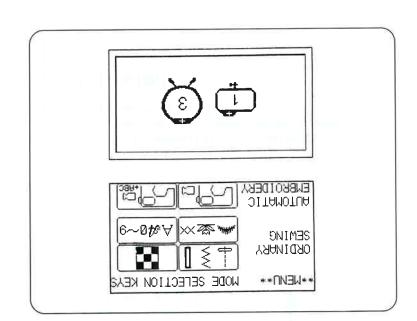
Edit Design Mode

more cards. It is possible to combine designs contained on one or

Insert EnVision Card 101.

Press

selection screen appears. screen for a few seconds and then the design The appropriate hoop(s) is/are indicated on the

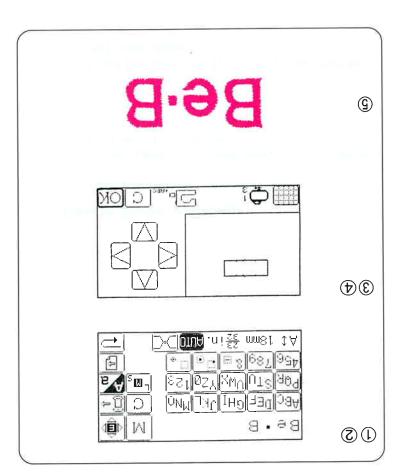


Combination of Designs

Example: Block Style Letters and Border Designs

1. Memorize "Be-B" in block style.

- 2. Press the edit key | 📵 |.
- 3. Shift the design to the appropriate position by pressing the $\mathbb{Q}_{\mathbb{Q}}^{\mathbb{Q}}$ keys.
- 4. Press (0K).
- * If you make a mistake or want to start over, use
- the C key to clear the screen.
- 5. Sew sample.
- Press the | | key after sewing is complete.

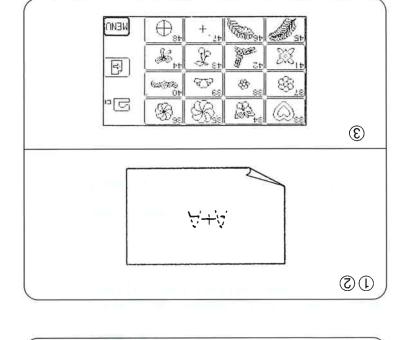


- · Cons C . Cl. L 6. Memorize the border designs
- 7. Press the | Iby | Key.

8. Shift the design to the appropriate position to

- combine with the design previously sewn by pressing the $\operatorname{S}_{\square}^{\mathbb{Z}}$ key.
- 9. Press (0K |:

- 10. Sew sample.



Be-B

95

c∭s

0

68

(2)9

4441

Mark the center on the fabric.

the hoop to the carriage.

How to Center a Design

٦.

and select design Insert EnVision Card 102. Turn on the machine .ε

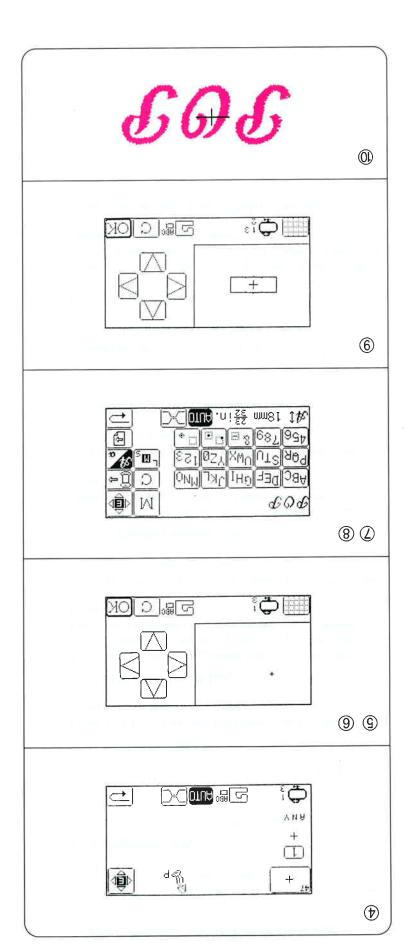
Set the fabric in the embroidery hoop and attach

68

4. Press the 🐠 key.

- 5. Use the $\frac{1}{2}$ keys to move the carriage until the "+" mark on the fabric is directly under the needle.
- 6. Press OK key. Press **START**/stop key. The machine will sew one stitch and automatically stop.
- 7. Turn off the power switch and insert EnVision Card 101.
- 8. Memorize the word "POP" in script style and press the Aey.
- 9. Use the $\mathbb{R}^{\square}_{\square}$ keys to move the rectangle on the screen so that the "+" is exactly in the center. Press the $\boxed{0K}$ key.

10. Press the START/stop key.



Thread Breaks While Embroidering



If you have started the machine and, in the middle of sewing a word (or some other design) you want to reposition the hoop/fabric and sew again from the beginning of the word (design), press the

Frame Position Key

Press the (|>| Key and the display will change to show (|>| A|| and (|>| D|| keys.

This key is used to reposition the hoop after the thread breaks. By pressing this key, you can move the hoop backward to the point where the thread broke.

• The hoop is moved backward 10 stitches each time the key is pressed.

▷▷▷ Frame Advance Key

Pressing this key moves the hoop forward without sewing. The key is used for correction when the hoop is moved backwards too far.

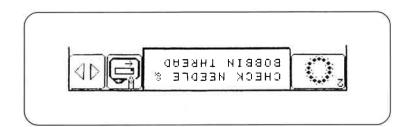
- The hoop is moved forward 10 stitches each time the key is pressed.
- * Press the $\hfill \bigoplus$ key after using the $\Box \Box \Box$ or $\Box \Box \Box$ key.

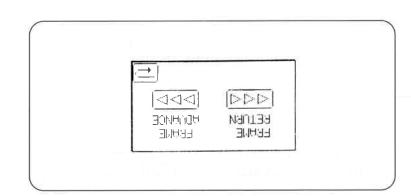
NOTE: Before pressing (Ab keys, make sure the needle is at its highest position.

Rethread the machine.

Press the [⊲⊲⊲] key. You will probably need to press the key more than once to align the needle position to sew before the thread breaks.

Lower presser foot. Press START/stop key.





SECTION X

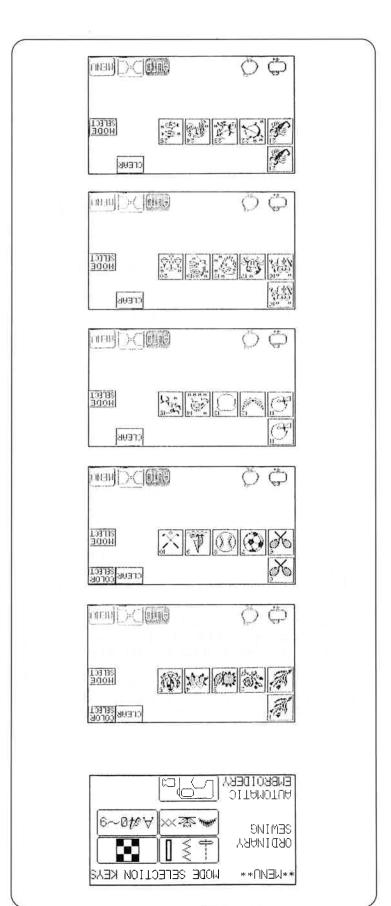
Alternative EnVision Cards

EnVision Cards Available For the Elna 9006 Model May Be Used in the CE-20

Example: EnVision Card 2

1. Insert EnVision Card 2.

3. Press (REE) key to alternate between five display screens.

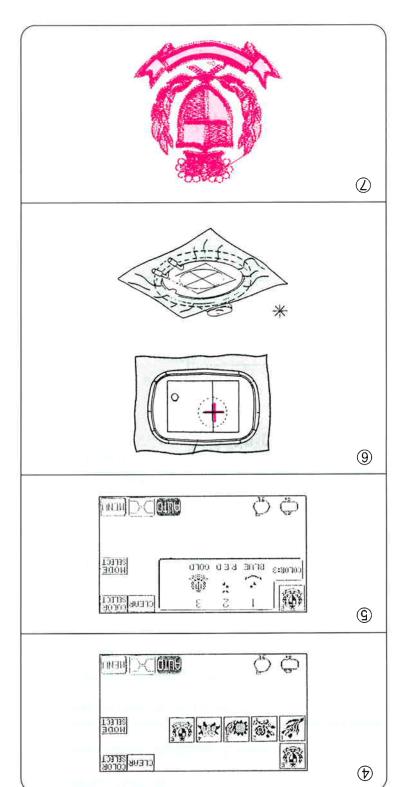


4. Select design by pressing the display screen.

- Press the color select key if it is shown as an option. Screen will show sewing sequence and suggested thread colors. (Some designs are either one or two colors and the color select key will not be shown.)
- * If you do not press the color select key, the design will be sewn without the machine automatically stopping for thread changes.
- 6. Mark the fabric with reference lines, matching them with those on the template. Set the fabric in the embroidery hoop and attach the hoop to the carriage.
- * We recommend using the round embroidery hoop (optional).

- 7. Press **START**/stop key. Machine will sew section 1 and automatically stop.
- Change thread color and sew next section. Continue using same method until design is completed.

NOTE: Skipping is not an option with these cards.

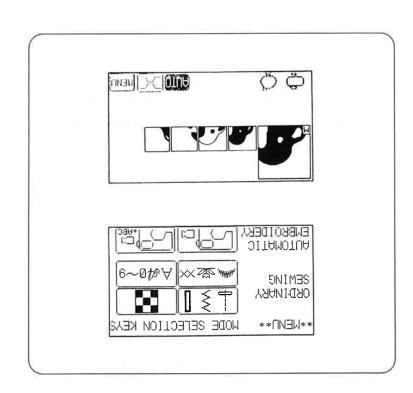


An Optional Scanner is Available for the Elna CE 20

1. Insert the scanner EnVision Card.

2. Press Rey.

3. Sew sample using same method as normal embroidery.



SECTION XI

Care of Your Machine

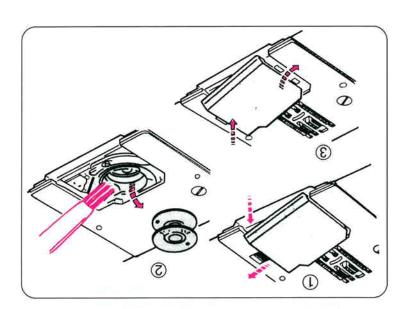
The Elna CE 20 EnVision has been meticulously designed and manufactured to give you a lifetime of sewing pleasure. Do not store the machine in a high humidity area, near a heat radiator or in direct sunlight. The machine is self-lubricating, however, the area around the bobbin and hook must be cleaned each time the machine has had extensive use. Clean the outside of the machine with a soft cloth and pure soap.

Cleaning the Bobbin Area

Loose threads and dust may cause puckered stitches and thread breakage during stitching. Check for lint buildup after each garment is completed.

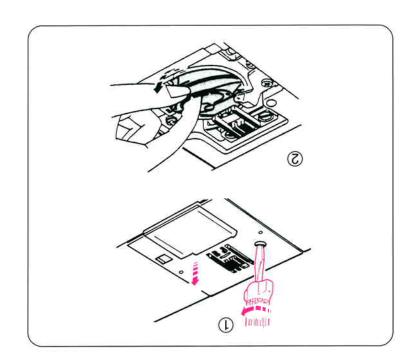
Press the up/down needle key until the needle is raised. Unplug the machine before cleaning.

- Remove the bobbin cover plate by sliding the bobbin cover plate release button to the right.
- Take out the bobbin, brush out dust and lint. (You may also use a small vacuum cleaner.)
- ③ Insert the bobbin and attach the bobbin cover plate.



Cleaning the Hook Area and Feed Dog

- ① Remove the presser foot, bobbin cover plate, needle and bobbin. Remove the screw on the left side of the needle plate using the screwdriver supplied with the machine.
- Remove the needle plate. Lift up and remove the bobbin case.



Cleaning the Hook Area and Feed Dog (cont'd)

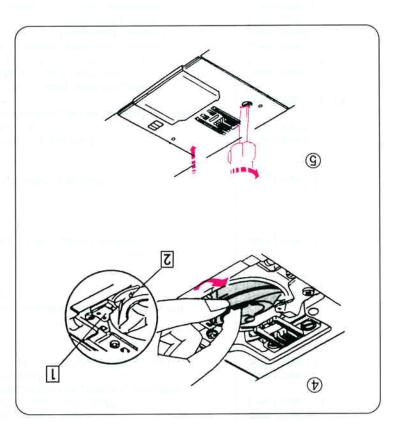
 Clean the feed dog and hook area with the lint brush. Wipe out gently with soft, dry cloth. (You may also use a vacuum cleaner.)



Replacing the Bobbin Case

- $\ensuremath{\mathfrak{G}}$ Insert the bobbin case so that the knob fits next to the stopper in the hook area.
- Stopper
- ▼ Xuop
- Beplace the needle plate, inserting the two needle plate.
 Replace the screw.

 Replace the screw.
- After cleaning, be sure to replace the needle, presser foot and bobbin.



Troubleshooting

Reference	Cause	Type of Sewing	Condition
See pages 95-96. See pages 95-96.	1. Threads have been caught in the hook area. 2. The feed dog is packed with lint.	IIA IIA	he machine noisy.
See pages 17-18. See pages 24-25.	 The needle thread is not threaded properly. The needle thread tension is too tight. 	IIA	əlbəən ən
See page 8.	2. The needle is bent or blunt. 3. The needle is bent or blunt.	IIA IIA	read breaks.
See page 8.	4. The needle is incorrectly inserted.	IIA	
See pages 11, 74.	5. The thread is too heavy for the needle. A The needle thread and the hobbin thread are not placed.	IIA	
See page 19.	 6. The needle thread and the bobbin thread are not placed back under the presser foot when starting to sew. 	Ordinary	
	7. The needle thread is not in the thread holder	Embroidery	
See page 75.	when beginning embroidery sewing.		
	and all the arms habeands and all beautiful aims		
See page 16.	 The bobbin thread is not threaded properly in the bobbin case. 	IIA	ne bobbin read breaks.
See pages 95-96.	2. Lint has collected in the bobbin case.	II∀	יבמת הובמעטי
Use an undamaged	3. The bobbin is damaged and doesn't turn smoothly.	II∀	ľ
niddod.			
See page 8.	1. The needle is incorrectly inserted.	IIA	əlpəəu əı
See page 8.	2. The needle is bent or blunt.	IIA IIA	езка.
See pages 24-25.	 The needle clamp screw is loose. The needle thread tension is too tight. 	IIA IIA	
.o	5. The fabric and threads are not pulled to the back	IIA	
See page 22.	.bədəinif is finished.		
See page 11.	6. The needle is too fine for the fabric being sewn.	Ordinary	
	1. The lighting of the computer display screen is not	IIA	splay screen
See page 7.	adjusted properly.	1440	not clear.
			re embroidery
See page 77.	1. The EnVision Card is not inserted properly.	Embroidery	sys don't work.
See page 91.	1. The needle is in a lowered position.		
u a afind ago	וי דוופ וופפחופ ופ ווו מ ומאפופת אסטונומוני	Embroidery	eys don't work.
See page 8.	1. The needle is incorrectly inserted.	IIA II.0	peddi
See page 8.	2. The needle is bent or blunt. 3. The needle and/or threads are not suitable for the	IIA IIA	itches.
See pages 11, 74.	fabric being sewn.	7444	
	4. A stretch needle is not being used for sewing	IIA	
See page 11.	stretch, very fine fabrics and synthetics.	"*	
See pages 17-18.	5. The needle thread is not threaded properly.	IIA IIA	
See page 11. See page 6.	6. The wrong needle is being used.7. The foot pressure dial is not adjusted correctly.	Ordinary	
See page 76.	8. The embroidery hoop is not attached properly.	Embroidery	
See page 76.	9. The fabric is not pulled taut in the embroidery hoop.	Embroidery	
98 0000 003	 You are trying to sew the design twice for heavy 	Embroidery	
See page 35, 39, 74 See pages 35, 39, 74	thread coverage. 11. Use interfacing for fine or stretch fabrics.	IIA	
	TO COMPANY	10.7	
See page 6.	1. The foot pressure dial is not adjusted correctly.		

Troubleshooting (cont'd)

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